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ABSTRACT

A study was conducted to assess the career aspiration and self-congruence of Puerto Rican Youth, as well as to develop a pilot curriculum designed to increase these students' awareness of the world of work. A pre-post control group design was used. All students involved in the research were seventh- and eighth-graders in the Bilingual Cluster at Quirk Middle School of Hartford Public Schools (Connecticut). None of the students had previously been exposed to a career awareness/exploration program. The experimental students were exposed to three career-related and career-infused lessons per day for a six-week period while the control group students were not. There were fifty-two students in the experimental group and thirty-seven in the control group. The Pier-Harris Test and the Comprehensive Career Assessment Scale were administered to all students in the classrooms by their teacher. Although mean scores were higher in the experimental group than in the control group, they were not significantly higher. It was suggested that had the program been used for an entire school year the increases might have reached a level of significance. Although the results were not significant, the students' scores in the academic areas improved as a result of this program. (A major portion of this document contains appended materials, among which is a copy of the program curriculum.) (BM)

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PROJECT CASE

Career Aspiration and Self Congruence
in the
Education of Puerto Rican Youth

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Meeting the Vocational Education Needs
of
Special Populations

Director: James S. Cohen, Ph. D.

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Hartford, CT

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NEED FOR THIS ASSISTANCE

Hartford, Connecticut's Puerto Rican youth comprise approximately thirty percent (30%) of the total public school population. Less than fifteen percent (15%) of these youngsters graduate from high school. An even smaller percentage, about four percent (4%), comprise the vocational-technical school population of Connecticut. These Puerto Rican students comprise the largest ethnic group percentage in the City who eventually drop out of school and become unemployed. What is even more startling is that most of these students speak conversational English and have been in mainland America for a number of academic years.

The problem of unemployment is serious concerning Puerto Ricans in the City of Hartford. Estimates range up to thirty-two percent (32%) for this group along. The problem in many cases is their failure to complete formal educational training which enables them to receive basic entry level skills.

A large number of students who drop out do so at the age of 16, Connecticut's legal age for compulsory education. They then find themselves with no marketable skills, little academic preparation and little hope for finding a menial job, let alone, meaningful employment. Thus, many of these young workers are left with a jobless, futureless existence.

The proposed research plans to analyze the needs these Puerto Rican youngsters have concerning career

aspiration and self congruence since a review of the literature seems to state a link between a student's career aspirations, self congruence and ultimate career choice.

The population dealt with in this research are those youngsters involved in a bilingual program in Hartford's public schools. A priority of this research is to develop improved methods of teaching students with limited English speaking ability.

There is substantial evidence that curriculum which deals with aspects of positive self congruence through activities and experiences leads to improved academic skills (Wattenberg, 1963). Therefore, the importance of exposure to both career constructs as well as self congruence activities would appear to lead to better career choices as well as to improved academic ability.

CONTRIBUTION TO EDUCATION

The sample population in this research project will represent similar populations in many urban cities throughout America. The results may be generalized to other similar groups of students. Research will contribute to the improvement and development of curriculum for use with Puerto Rican youth in both secondary education as well as in vocational schools. All of the students included in this research are classified educationally disadvantaged; academic achievement scores are depressed 2 - 4 years.

Both public and private schools in the city of Hartford have considerable populations of Puerto Rican students, thereby, making the research findings generalizable to both educational settings.

It is the intent of the research project to evaluate career aspiration of these students, as well as their self congruence and design a pilot curriculum which helps develop positive career concepts leading towards greater awareness of the world, the necessary skills needed for certain jobs and the practical experiences needed for job entry levels.

STATEMENT OF THE PROBLEM

The research studied the following problem:

"Will bilingual students exposed to a career awareness exploration program have more positive self congruence, career interests and career familiarity than students not exposed to a career awareness exploration program?"

Hypotheses

Ho_1 There will be no significant difference between the project CASE program and the regular program and the influence these programs have on self congruence.

Ho_2 There will be no significant difference between the project CASE program and the regular program and the influence these programs have on career interests.

Ho_3 There will be no significant difference between the project CASE program and the regular program and the influence these programs have on career familiarity.

RESULTS OR BENEFITS EXPECTED

It is the major intent of this research to assess the career aspirations and the related construct, self-congruence, of these youth, as well as to develop a pilot curriculum designed to increase these student's awareness of the world of work. Desired results and benefits of the project are:

1. To decrease the number of dropouts within the experimental group.
2. To increase student awareness of career options and job opportunities.
3. To increase student awareness of vocational education as a means to attain future goals.
4. To develop a pilot curriculum implemented within existing curriculum.
5. To introduce teaching staff to concepts and activities dealing with career aspiration and self-congruence.
6. To have relevant up-to-date research data available for general information in this specialized educational area (ERIC, AIM/ARM microfiche).

REVIEW OF THE LITERATURE

Super and Overstreet (1960) conceptualize career development as a process of self-development, the process of formulating and effecting a self-concept which is implemented vocationally with satisfaction both for the individual and society. It encompasses self-exploration with regard for educational and vocational endeavors and provides for an understanding of the role of work and leisure for the individual.

D'Costa and Winefordner (1969) offer a cubistic model of vocational interest which corresponds to Super's reasoning on the development of self-concepts into a self-concept system with vocational influence.

The tenets of Erikson (1963, 1968) are closely related to vocational development, as the child is seen as moving through each developmental stage and is confronted with the concomitant developmental issue or crisis. The childhood stage involves the anticipation of roles, and the child emerges from this stage with the perception that "I am what I can imagine I will be." The school age years involve task identification, and the child emerges with the perception that "I am what I can learn to make work." It is during adolescence that Erikson sees the child as confronting the issue of personal identity versus identity confusion, and healthy resolution of this crisis results in identity formation and personality synthesis.

integral to this process is the identification of an occupation consistent with the adolescent's sense of identity.

The work of Erikson concerning the interrelationship between identity and occupational fit parellels Super's (1953) theoretical construct that the process of vocational development is essentially the process of translating and implementing the self-concept into a vocational self-concept.

This same view is voiced by Galinsky and Fast (1966) when they state "vocational research also indicates that having a well-delineated sense of identity based on a consistent developmental history is an important requisite for choosing a life's work".

In reformulating his theory of occupational choice, Ginzberg (1972) states that people make occupational decisions in an attempt to optimize their satisfaction through finding the best match between their priority needs and wants and the possibilities and limitations they meet in the world of work.

Ginzberg further comments that the education and values of blue-collar parents are often limiting factors for their children, and that children from low income families are unlikely to establish and achieve an occupational goal requiring graduation from college or a professional school. He concludes that the educational system does not function adequately to provide these children with effective avenues out of their adverse environment. He further comments on the poor progress

made in the educational system in curricular and guidance activities for females and minority groups.

Hershenson (1968) presents vocational development as a five-stage process, emphasizing the sequential nature rather than the chronological age correlates of each stage. The four vocational development stages that the child passes through, and their respective vocational question and the measurement construct are as follows: Social-amniotic/Am I?/ socialization to the culture and family; Self-differentiation/Who am I?/ affective self-concept, attitudes, and values; Competence/ What can I do?/ abilities; and Independence/What will I do?/ interests. The child moves from differentiating the self from the social context to asserting himself as an individuated person by eventually exerting control over his environment, and confronting the issue of "Who am I." The resolution of this issue is the child's affective self-concept, attitudes, and values, absorbing the influence of the social-amniotic milieu. Hershenson identifies the vocational development theories most pertinent to this stage as those emphasizing the role of self-concept on vocational development and choice. (Bordin and Super) The child then moves to identifying the constraints of his strengths and weaknesses, what he can and cannot do. The realm in which the child seeks to develop his competancies is determined by the attitudes and values developed during the self-differentiation stage. Hershenson cites studies which indicate a positive correlation between self-concept and abilities, but determines that as yet enough evidence

has not accumulated to suggest a causal relationship.

Ciavarella (1972) views educational and vocational development as reciprocal processes, with choices in one area affecting the other. He maintains that during the elementary years, a range of behavior patterns are formed, such as achievement orientation, self-direction, attitudes, and occupational stereotypes, which as the child develops, exert major influence on the eventual educational and vocational decisions made. He further asserts that through his endeavors, the individual is attempting to maintain his self-concept, and will pursue those activities and involvements most closely aligned with his self-concept.

Leonard, et al (1962) discuss self concept, commenting that a commonly held psychological tenet is that the personality is formulated by the age of seven, and consequently is greatly influenced by parent-child interaction. However, they point out that the school also can, and in fact, does exert considerable influence in adequately forming a self-concept. Although they note that the self-concept is resistent to change, they cite the work of Engel, Frankel, and Shaw, et al, in establishing that apparently healthy movement can be made. The issue then becomes one of facilitating a positive self-concept, which, they maintain, will consequently increase the probability of adjusting adequately in school.

In discussing her study, Goodson (1970) comments that the subjects (180 third through eighth graders) demonstrate the highly meaningful personal attraction of occupational

exploration for youth, stating that the child's self-concept is a crucial component. The eventuation of a wise occupational choice necessitates attaining accurate self-knowledge in relation to the world of work. She maintains that it is educational responsibility to help provide students with some measure of success in self-understanding and occupational exploration.

Fisher (1974) conducted a study of a bilingual-bicultural program to determine its effects on the self-concept, self-descriptions, and stimulus seeking behaviors of the first grade subjects. He found that the program enhanced the self-concepts of the Chicano males, and seemed to have a detrimental effect on the self-concept of the Anglo boys. While in the beginning of the program there were significant differences between Anglo and Chicano students' self-descriptions, seven months later there were no longer significant differences. The females also demonstrated significant changes in their stimulus seeking behaviors, with the males showing no significant improvement. While the control group demonstrated no significant changes in either self-concept or stimulus seeking behaviors for either sex, the author cautions that the findings should be held as somewhat tentative because of small sample size.

Attention has also been given to the vocational development of females. Patterson (1973) cites the work of Matthews when explaining that by the secondary school years, girls are typically enmeshed in exhibiting the "feminine" personality

with its detrimental effects on effective planning involving the sex role as well as the competitive achievement role. He cautions that sexual and vocational identity are interrelated phenomenon, and they must be confronted in order to cope with the intrapsychic conflicts within the female adolescent. The socialization of females fosters within them the principle roles of wifehood and motherhood, while for males there is an emphasis from an early age on future employment. He identifies the identity issues for females as those of accepting the female sex role, and accepting their individual abilities and limitations in their relation to vocational options. For females, it appears that self-concept is the critical factor "that determines not only what career, but also whether a career,". He recommends that in the early grades females need direction in viewing it as acceptable for them to plan vocationally and to be respected for their occupational endeavors. The work of Westervelt is also cited by Patterson, for her discussion of how the elementary school can wean young females of "prosocial aggression" (initiating people to accomplishment). The young female exhibiting such behavior is frequently rejected by both peers and teachers for such unfeminine behavior, and consequently, by the end of the elementary years, males have become the initiators, even though initially they demonstrate less prosocial aggression.

Harris (1974) undertook a study involving group counseling of sixth grade females in an attempt to increase the number of tentative career choices made and to decrease the percentage of sex-linked choices made, based on the results from other

research that sex-linked interests and occupational choices are exhibited by elementary school children, thus occupationally constraining the females. She reports results indicating that the females in fact did experience a broadened perspective concerning the world of work with regard to themselves.

Barnett (1975) studied sex differences and age trends in occupational preference, aversion, and prestige with female and male subjects ranging in age from nine through 17. She found that for every age, the correlation between occupational preference and prestige was greater for the males than for the females. The relationship between aversion and prestige was greater for the females at every age than for the males, and the correlations between prestige and aversion are higher than those between prestige and preference for females. Barnett concludes that her results indicate "early sex-related learning with respect to the attractiveness of prestigious occupations. On the basis of these data, women may be under-represented in prestigious occupations not because they opt for such roles and are thwarted, but, rather, because early in their development many women learn not to aspire to such positions,".

Olive (1973) researched the relationship between sex and vocational preference for adolescents. Even though females were found to be of equal intelligence with males, their occupational preferences reflected higher social status than those of males. However, their choices fell within the range of traditional feminine occupations, and were not of the highest level of occupational prestige, but rather fell in

the next lowest level.

McSweeney (1973) investigated the determining influence of values on occupational choice for secondary students in terms of transitional and emergent value orientations with respect to morality, achievement, autonomy, and time. It was found that differences exist between the traditional and emergent value oriented students with regard to time and achievement in occupational choice. The conclusion is reached that the results lend some support to the thesis that theoretically held values are implemented in practice through the process of occupational choice.

Bruch, et al (1972) researched self and parental esteem for secondary school advantaged white, and disadvantaged white and black students, and found that the disadvantaged students scored significantly higher on self-esteem, although for a specific age group of disadvantaged students, there were relatively large discrepancies between ratings of self and others than there were for the advantaged students. The authors suggest high self-esteem scores may not necessarily be representative of positive self-esteem when one's significant others are preceived as being negatively different. They also comment "that the greater discrepancies in esteem scores for inner-coty seniors may represent a kind of bluffing or over-estimation of one's attributes in anticipation of the need for independent functioning in the near future. A concimitant of this process could be a devaluation of significant others which may serve as a defense in which one's own feel of importance are increased by degrading other's attributes,".

Cosby and Picou (1971) undertook a study researching the vocational expectations of tenth graders, noting that such variables as the individual's race, class, and residence not only influence occupational attainment possibilities, but in addition exert differential influence on the vocational plans of youth, and that there is a distinction between those occupations that youth aspire to attain, and expect to attain. The results obtained indicate that both white and non-white students alike held high level occupational expectations, suggesting a likely internalization of American success goals.

RESEARCH DESIGN

A Pre-Post Control Group Design was used. All students involved in the research were seventh and eighth graders in the Bilingual Cluster at the Quirk Middle School.

None of the students had previously been exposed to a career awareness/exploration program. Therefore, it was assumed that they had gone through essentially the same educational experiences.

Experimental Group

The experimental students were those subjects exposed to three career related and career-infused lessons per day. In total, each experimental student was exposed to ninety (90) activities in all of the subject areas for the six week period. These areas included math, science, language and social studies. There were 52 students in this group.

Control Group

The control group were students not exposed to a career awareness/exploration program, participating in their normal curriculum. There were 37 students in this group.

CHARACTERISTICS & SIMILARITIES OF TREATMENT GROUPS

Age

In determining similarities between the two groups, the average age of the students in the experimental group was 12.7. In the control group, the average age was 12.3.

Sex

There were 33 boys and 56 girls in the study. The experimental group contained 16 boys and 38 girls. The control group contained 17 boys and 18 girls.

Student Mortality

All students who began the program completed it.

STATISTICAL PROCEDURES

1. A related t-test was performed on the mean scores the students recorded on the pre and post tests in the areas of self congruence, career interests and career familiarity.

2. A multi-variate analysis (multiple regression) was performed for further comparison of student scores in self congruence, career interests and career familiarity, all with respect to age and sex.

ADMINISTRATION OF THE INSTRUMENTS

The Piers-Harris Test and the Comprehensive Career Assessment Scale were administered to all students in their classrooms by their teacher. All teachers were previously instructed through in-service meetings and summer workshop exercises on how to administer the tests.

The directions given the subjects were identical for all classes and read to them from prepared sheets, to insure similarity of administration. Tests were administered between 9 and 11:00 a.m. and were completed in two sittings on the same day.

The subjects were instructed to read the directions to themselves while their teacher read them aloud. Incidental questions were answered and the students were then requested to work silently by themselves. The total time allotted for each test was fifty-five minutes, but no student needed the full allotted time.

THE RESEARCH INSTRUMENTS

Piers-Harris Test:

The Piers-Harris Children's Self-Concept Scale entitled, "The Way I Feel About Myself", published by Counselor Recordings, Nashville, Tennessee, is a quickly completed self report instrument designed for children over a wide age range. The Scale was

designed primarily for research on the development of children's self attitudes. All information which follows was reported by Counselor Records, Nashville, Tennessee for use specifically with the Piers-Harris Test.

Derivation of Item Pool and Initial Pilot Study

The universe to be sampled in a children's self-concept scale should consist of items reflecting the concerns that children have about themselves. An original pool of items was developed from Jersild's (1952) collection of children's statements about what they liked and disliked about themselves (Piers and Harris 1964). These Jersild had grouped into the following categories: (a) Physical Characteristics and Appearance; (b) Clothing and Grooming; (c) Health and Physical Soundness; (d) Home and Family; (e) Enjoyment of Recreation; (f) Ability in Sports, Play; (g) Ability in School, Attitudes Toward School, etc.; (h) Intellectual Abilities; (i) Special Talents (music, arts); (j) Just me, Myself; and (k) Personality, Character, Inner Resources, Emotional Tendencies.

The items were written as simple declarative statements, e.g., " I am a happy person". At least half were negative in content (e.g., "I behave badly at home") in order to reduce effects of acquiescence, but negative terms such as "don't" were avoided in so far as possible, in order to reduce the confusion of a double negative.

The preliminary pool of 164 statements was administered

in a pilot study to a sample of 90 children from the third-, fourth-, and sixth-grade classes in a small school district, with the items being read aloud by the examiners, while the children followed along on their test blanks and circled "yes" if the item was true for them and "no" if it were not true for them.

The pilot study established that the children understood the items, and that the inventory could be completed in approximately 30-35 minutes. Following the administration, items answered in one direction by fewer than 10% or more than 90% were inspected, and, in most cases, dropped. However, since the instrument was designed to identify cases of children who are deviant, as well as to establish norms, a few items such as 'my parents love me' were temporarily retained even though answered "yes" by the great majority of children. One hundred forty items remained, including the Lie scale.

While there was no effort to evaluate cultural bias, sampling involved urban students similar to those students in Hartford, Conn. Some test sites included Detroit, Mich. and Seattle, Wash.

Standardization

As a preliminary approach to scoring, statements were classified by three judges as reflecting adequate (high) or inadequate (low) self-concept, repetitious items originally included to estimate consistency were discarded, and the Lie scale was put aside to be scored separately.

Item Analysis

The authors through Counselor Recordings, Nashville,

Tennessee used a sixth-grade sample of students; the 30 highest and 30 lowest scores were identified and on each item Cureton's chi test (Lindquist 1951) was applied to determine whether the item significantly discriminated between the high and low groups at the .05 level or better. In addition, only those items answered in the expected direction by half or over half of the high group were used. Eighty items met these two criteria and constitute the present scale.

Reliability

To judge the homogeneity of the test, the authors used the Kuder-Richardson Formula 21, which assumes equal difficulty of items, was employed with resulting coefficients ranging from .78 to .93.

Stability

A retest by the authors after four months on one half of the standardization sample resulted in coefficients of .72, .71 and .72, which were judged satisfactory for a personality instrument in the experimental stage over so long a period of time. The revised 80-item scale, though shorter, was shown to have better reliability since Wing (1966) found for both a two-month and four-month retest coefficients of .77 for 244 fifth graders.

The scale is thus judged to have good internal consistency and adequate temporal stability.

Validity

An attempt was made by the authors at the outset to build content validity into the scale by defining the universe to be measured as the areas about which children reported qualities they liked or disliked about themselves (Jersild 1952).

Mayer (1965) compared scores on the Piers-Harris with scores on Lipsitt's Children's Self-Concept Scale (1958) for a sample of 98 special education students, 12-16 years of age. He obtained a correlation of .68.

Comprehensive Career Assessment Scale:

The Comprehensive Career Assessment Scale was developed by Learning Concepts, Austin, Texas to provide a means of evaluating the results of career education programs once they have been implemented. The scale was developed with the intention that it could assist all children, regardless of social class, sex or ethnic group, to realize their full potential. In order to get a national sampling of occupations most representative of each of the fifteen career clusters, ten state departments of education were contacted in regions of the United States representative of the entire country by the authors. The education department staff members were asked to recommend the foremost career education authorities on the local levels in their states. These authorities listed the ten most representative occupations in each of the fifteen clusters, taking into consideration various income levels, sex-typed occupations, and rural/urban occupations. After compiling the information from the

local career education authorities, the authors selected ten occupations for each cluster for the field test versions of the Comprehensive Career Assessment Scale. Five sites participated in the field testing: Russelville, Alabama; Santa Barbara, California; Haxtun, Colorado; Milford, Nebraska; and Philadelphia, Pennsylvania.

The following information was reported by them in their Test Manual for the Comprehensive Career Assessment Scale.

Reliability

The coefficient alpha, which estimates reliability of a test based on internal consistency was found by the authors to be .92 for questions dealing with familiarity with careers and .92 for questions dealing with interest in careers used within the test.

Validity

The construct validity of the Scale is based upon the method of construction in that the occupations used were selected to be highly representative of the clusters. The efficiency of this method was demonstrated by the authors through item analysis. Most of the item/cluster correlations are above .60 with a range of .37 to .85 for familiarity and .37 to .86 for interest. These ranges indicate that the items form coherent clusters with strong internal consistency. The Scale also has high face validity: The format is straightforward and easily interpreted.

CRITERIA FOR SELECTION OF INSTRUMENTS

The two instruments were selected based on the following considerations:

1. Both have an ease of application and appeared to create little anxiety on the part of the subjects.
2. The simple, straight-forward approach used by the instruments expedited subjects completing the tests.
3. Scoring the instruments was a simple matter.
4. The design of both instruments was sensitive toward third through sixth grade students.
5. The specific areas researched through this study were accurately evaluated through the use of the instruments. The Piers Harris Test measures aspects of self-concept in children of elementary and secondary school age. The Comprehensive Career Assessment Scale evaluates both familiarity and interest towards careers in elementary and secondary aged students.

SCORING OF THE INSTRUMENTS

All scoring was done by hand, by persons not involved with the research or the Hartford School System. Test scorers simply totaled subjects' responses and indicated these totals in the appropriate boxes provided by the instrument. They then

punched these totals (raw scores) on to appropriate IBM data cards for computer analysis.

PRESENTATION AND INTERPRETATION OF THE DATA

SELF CONGRUENCE

A mean difference of 4.02 was recorded by the experimental group. The control groups's mean difference was 2.49. A t= -.9807 was not significant at the .05 level. Therefore, Hypothesis 1 was accepted. Data is presented next in Table I.

Table I

Comparison of Experimental Students to Control Students In Terms of Self-Congruence

Group	N	Mean Dif.	St. Dev.
Exp.	52	4.02	11.51
Con.	37	2.49	13.06

t = .9807

Not Significant at .05

CAREER INTERESTS

A mean difference of 6.27 was recorded by the experimental group. The control group's mean difference was 3.80. A t= 1.4615 was not significant at the .05 level. Therefore, Hypothesis 2 was accepted. Further data is presented below in Table II.

Table II

Comparison of Experimental Students to Control Students In Terms of Career Interests

Group	N	Mean Dif.	St. Dev.
Exp.	52	6.27	29.57
Con.	37	3.80	31.26

t = 1.4615

Not Significant at .05

A mean difference of .90 was recorded by the experimental group. The control group's mean difference was -.27. A t=.1700 was not significant at the .05 level. Therefore Hypothesis 3 was accepted. Further data is presented below in Table III.

Table III

Comparison of Experimental Students to Control Students In Terms of Career Familiarity

Group	N	Mean Dif.	St. Dev.
Exp.	52	.90	30.87
Con.	37	-.27	27.18

t = .1700

Not Significant at .05

Breaking down test scores further in terms of the dimensions of age and sex, the following statistical information was obtained:

In terms of gains/losses in self congruence with respect to age, 13 year olds in the experimental group made the greatest gains with a 4.4 point rise.

In terms of gains/losses in self congruence with respect to sex, experimental group females lost 4.4 points overall.

See Tables IV and V.

In terms of gains/losses in career interests with respect to age, 13 year olds in the experimental group made the largest gain with a 6.5 point rise.

In terms of gains/losses in career interests with respect to sex, females in the experimental group gained 10.1 points overall.

See Tables VI and VII.

In terms of gains/losses in career familiarity with respect to age, 12 year old experimental students gained 5.5 points.

In terms of gains/losses in career familiarity with respect to sex, experimental females again scored highest with a 24.4 point rise.

See Tables VIII and IX

Table IV

GAIN/LOSS IN SELF CONGRUENCE WITH RESPECT TO AGE

	12 yrs old	13 yrs. old	14 yrs. old	Mean
Exp.	-2.0	4.4	2.1	4.0
Con.	3.2	1.6	-2.0	2.5

Table V

GAIN/LOSS IN SELF CONGRUENCE WITH RESPECT TO SEX

	Males	Females
Exp.	1.6	-4.4
Con.	1.5	-5.0

Table VI

GAIN/LOSS IN CAREER INTERESTS WITH RESPECT TO AGE

	12 yrs. old	13 yrs. old	14 yrs. old	Mean
Exp.	-16.5	6.5	-1.7	-4.5
Con.	12.8	-2.8	-24.	3.7

Table VII

GAIN/LOSS IN CAREER INTERESTS WITH RESPECT TO SEX

	Males	Females
Exp.	2.8	10.1
Con.	-32.3	11.7

Table VIII

GAIN/LOSS IN CAREER FAMILIARITY WITH RESPECT TO AGE

	12 yrs. old	13 yrs. old	14 yrs. old	Mean
Exp.	5.5	.2	3.5	1.5
Con.	4.5	-7.8	29.	13.1

Table IX

GAIN/LOSS IN CAREER FAMILIARITY WITH RESPECT TO SEX

	Males	Females
Exp.	-16.4	24.4
Con.	-24.6	34.5

Conclusions

Although mean scores were higher in the experimental group than in the control group, they were not significantly higher. Therefore, all three hypotheses were accepted.

It is this writer's feeling that since the period of experimentation with the treatment extended only for six (6) weeks, accurate yearly mean rises might have reached a level of significance had the program been used for the entire school year.

In addition, both student and staff embarked on a novel learning technique, used over a brief period of time, in modest circumstances. Benefits other than those being measured included:

1. Student exposures and interest with career materials and resources resulted;

2. Student exposures and interest towards career speakers and career trips resulted; and

3. Teacher awareness of Career Education as a viable technique for infusing work related concepts through academic curriculum resulted.

Although results of the research were not significant in a statistical sense, the program should not be considered a failure. As was previously mentioned, other benefits occurred which might be addressed in some future study. The area of most concern to this author is that of the effect of a program of this type on the students' academic progress, i.e. were the students' scores in the academic areas (math, reading, social studies and science) raised as a result of this program.

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APPENDIX A

Program Curriculum

PROJECT CASE STAFF

Dr. James S. Cohen	Project Director
Mr. Thomas Ciccarillo	House Principal
Mr. Amato Cruz	House Principal
Ms. Juana Rodriguez	Counselor
Ms. Irene Piskor	Team Leador
Mrs. Maria Ortiz De Medina	Teacher
Mr. Benjamin Miranda	Teacher
Mr. Edwin Vargas	Teacher
Mr. Luis Centeno	Teacher

PROJECT CASE ADVISORY COMMITTEE

Hartford, Connecticut

1.	Georgina de los Rios	American Red Cross
2.	Ricardo Brown	WHNB-TV
3.	Carmen Malave	Mt. Sinai Hospital
4.	Stanley Goldstein	Phoenix Mutual Life
5.	Maria Sanchez	Hartford Board of Education
6.	Julio Mandoza	La Casa de Puerto Rico
7.	Mr. Yasha Escelera	San Juan Center
8.	Ms. Sandy Weaver - Bey	Comprehensive Manpower Program
9.	Mrs. Maria Reyes	Parent

LANGUAGE ARTS

PROJECT CASE

SUBJECT AREA
LANGUAGE ARTS
Marketing and Distribution

TITLE HOW DO YOU KNOW WHAT TO BUY AND WHERE TO BUY IT?

PURPOSE

affective To become aware of the role publicity plays in our lives.

cognitive To discuss products they and their families buy, the stores they patronize and the jobs involved.

MATERIALS Paper, pencil, chalkboard.

DIRECTIONS
1. Students will discuss how they and their families hear about the products they purchase.
2. Students will discuss jobs involved in reaching the public with product information.
3. Students will list jobs in (2.).
4. Students will discuss how they and their families hear about the stores they patronize.
5. Students will discuss jobs involved in reaching the public with information on where to shop.
6. Students will list jobs in (5.).

ADDITIONAL ACTIVITIES Read advertisements in papers, circulars, catalogues and magazines.
Visit advertising departments of Hartford Courant and G. Fox & Co.

WRITER

PROJECT CASE

SUBJECT AREA
LANGUAGE ARTS

Consumer and Home Making

TLE WOULD YOU RENT A DIRTY HOTEL ROOM?

RPOSE

affective To become aware of the jobs people must perform in order to keep hotels and motels clean.

cognitive To participate in a discussion of what must be done to clean a hotel or motel room between customers.

TERIALS Paper, pencils, chalkboard.

RECTIONS

1. Students will discuss what must be done to clean a hotel or motel room between customers.
2. Students will discuss what must be done to clean an entire hotel.
3. Students will list jobs involved in (1.) and (2.).
4. How would you feel doing this for a living?

TTIONAL ACTIVITIES Visit Sheraton Hotel and talk with cleaning staff.

WRITER
Irene Piskor

PROJECT CASE

SUBJECT AREA
LANGUAGE ARTS
Fine Arts and Humanities

TITLE WHO WILL HELP YOU WITH YOUR ORCHESTRA?

PURPOSE

affective To become aware of our dependence upon others to perform services that enable us to participate in cultural activities.

cognitive To participate in a discussion about jobs that must be performed so that an orchestra can function.

MATERIALS
Pictures of the Hartford Symphony.
Program of a Hartford Symphony concert containing a listing of personnel.

DIRECTIONS

1. Students will discuss who is needed to fill jobs in the orchestra they might direct.
2. Students will discuss who is needed to do what jobs at the Hartford Symphony.
3. Students will read over the staff positions of the Hartford Symphony.
4. Students will change listing in (3.) if necessary to operate their orchestras.

ADDITIONAL ACTIVITIES Attend Hartford Symphony concert for young people or a rehearsal of same.

WRITER
Irene Piskor

PROJECT CASE

SUBJECT AREA

LANGUAGE ARTS
English

TITLE HOW DO YOU GET FOOD WHEN YOU'RE SICK IN A HOSPITAL?

PURPOSE

affective To become aware of the jobs people must perform in order that we will have food when we are incapacitated and hospitalized.

cognitive To participate in a discussion about the jobs that must be done in order that hospital patients get fed.

MATERIALS Paper, Pencils, Chalkboard

DIRECTIONS

1. Students will discuss how patients get food in a hospital and the people involved.
   - A. Patient selection of meal from menu allowed by doctor.
   - B. Menu planning by dietician.
   - C. Food purchasing.
   - D. Food delivery.
   - E. Food preparation.
   - F. Food distribution within hospital.
   - G. Kitchen cleanup.
2. Students will list jobs involved in (A.) through (G.).

ADDITIONAL ACTIVITIES: Speaker from dietary department of a hospital.
Tour of dietary department of a hospital.

WRITER

Irene Piskor

PROJECT CASE

SUBJECT AREA
LANGUAGE ARTS
Fine Arts and Humanities

ITLE WHO WILL HELP YOU TO OPERATE YOUR MUSEUM?

URPOSE

affective To become aware of our dependence upon others to perform services that enable us to participate in cultural activities.

cognitive To participate in a discussion about the jobs that must be performed so that a museum can be operated.

ATERIALS
Slides and Pictures of the Wadsworth Atheneum.
Listing of Staff Members of the Wadsworth Atheneum.

IRECTIONS
1. Students will discuss who is needed to fill jobs at the museum they direct.
2. Students will discuss who is needed to do what jobs at the Wadsworth Atheneum.
3. Students will read about the staff members of the Wadsworth Atheneum.
4. Students will change listing in (3.) if necessary to operate their museums.

DDITIONAL ACTIVITIES
Visit Wadsworth Atheneum
Visit Children's Museum

WRITER
Irene Piskor

PROJECT CASE

SUBJECT AREA
LANGUAGE ARTS

Marketing and Distribution

TLE A PINEAPPLE TRAVELS FARTHER THAN YOU DO

RPOSE

affective To become aware of our dependence upon people working in transportation.

cognitive To discover how food travels from Puerto Rico, parts of the United States, and parts of the world to Hartford.

TERIALS Paper, pencils, chalkboard.

RECTIONS

1. Students will discuss the means of transporting a pineapple from a specific town in Puerto Rico to Hartford.
2. Students will discuss how various food items get to Hartford from parts of the United States.
3. Students will discuss how food arrives in Hartford from all over the world.
4. Students will discuss and list the jobs involved in (1.) through (3.).
5. How many jobs are involved in getting a pineapple from Puerto Rico to your home in Hartford?

DITIONAL ACTIVITIES Visit Hartford Regional Market

WRITER
Irene Piskor

PROJECT CASE

SUBJECT AREA
LANGUAGE ARTS

FINE ARTS AND HUMANITIES

TITLE You Tell Me Why I Should Hire You To Be a Newspaper Reporter or Photographer for the Hartford Courant.

PURPOSE

affective To become aware of self worth as related to a job a student can perform.

cognitive Students will learn how to sell themselves by stressing their skills and positive qualities.

MATERIALS Pencils and Paper.

DIRECTIONS

1. List your positive qualities such as dependable, hard worker, good listener, willing to help others, etc.
2. List your skills that would be used in the reporter or photographer job.

ADDITIONAL ACTIVITIES Speaker - Hartford Courant reporter or photographer.

WRITER
Irene Piskor

PROJECT CASE

SUBJECT AREA
LANGUAGE ARTS
CONSUMER AND HOME MAKING

TLE IS THERE A JOB FOR YOU IN CONSUMER AND HOMEMAKING CAREERS?

RPOSE

affective To develop awareness of jobs in consumer and homemaking careers.

cognitive To read about various levels of training that are acceptable for various levels of jobs.

TERIALS "Popeye and Consumer and Homemaking Careers", King Features, 235 East 45th Street, New York, N.Y. 10019, 1972.
Ditto sheet
Pencils.

RECTIONS 1.Read above book.
2.Fill in ditto sheet.
a. list 5 jobs that you might enjoy.
b. next to each list the training you would need.
c. check yes or no for the kinds of training acceptable for consumer and homemaking jobs.
d. list 6 jobs that you did not know about.

ITIONAL ACTIVITIES -- Write a paragraph about how workers in Consumer and Homemaking Careers make life better for all of us. Draw some of the people you read and wrote about.

WRITER

IRENE PISKOR

PROJECT CASE

SUBJECT AREA
LANGUAGE ARTS
Fine Arts & Humanities

TLE Is There a Job for You in Fine Arts and Humanities Careers?

RPOSE

affective To develop awareness of jobs in Fine Arts and Humanities Careers.

cognitive To read about various levels of training that are acceptable for various levels of jobs.

TERIALS "Popeye and Fine Arts and Humanities Careers", King Features, 235 East 45th Street, New York, N.Y., 10017, 1972.

Ditto sheet, pencils.

RECTIONS
1. Read above book.
2. Fill in ditto sheet.
   a. list 5 jobs that you might enjoy.
   b. next to each list the training you would need.
   c. check yes or no for the kinds of training acceptable for fine arts and humanities jobs.
   d. list 6 jobs that you did not know about.

DITIONAL ACTIVITIES Write a paragraph about how workers in fine arts and humanities careers make life better for all of us. Draw some of the people you read and wrote about.

WRITER

IRENE PISKOR

PROJECT CASE

SUBJECT AREA
LANGUAGE ARTS

MARKETING AND DISTRIBUTION

TITLE IS THERE A JOB FOR YOU IN MARKETING AND DISTRIBUTION CAREERS?

PURPOSE

affective To develop awareness of jobs in Marketing and Distribution Careers

cognitive To read about various levels of training that are acceptable for various levels of jobs

MATERIALS "Popeye and Marketing and Distribution Careers", King Features, 235 East 45th Street, New York, N.Y. 10017, 1972.
Ditto sheet, pencils

DIRECTIONS
1. Read above book.
2. Fill in ditto sheet.
   a. List 5 jobs that you might enjoy.
   b. Next to each list the training you would need.
   c. Check yes or no for the kinds of training acceptable for marketing and distribution jobs.
   d. List 6 jobs that you did not know about.

ADDITIONAL ACTIVITIES Write a paragraph about how workers in Marketing and Distribution Careers make life better for all of us. Draw some of the people you read and wrote about.

WRITER

IRENE PISKOR

PROJECT CASE

SUBJECT AREA
LANGUAGE ARTS
CONSUMER AND HOMEMAKING

TITLE Preparing to Interview People to Fill Job of Bread Delivery to Grocery Stores

PURPOSE

affective To develop positive attitudes towards careers.

cognitive To learn what skills and qualities a person should have who delivers bread to grocery stores.

MATERIALS Paper and pencils

DIRECTIONS
1. You must hire a person to deliver bread six (6) days a week to thirty (30) grocery stores.
2. List the skills and qualities the person must have.
3. Make a written job application form.
4. Compose questions to ask the applicants.

ADDITIONAL ACTIVITIES Fill out a job application.

WRITER
IRENE PISKOR

PROJECT CASE

SUBJECT AREA

LANGUAGE ARTS
MARKETING & DISTRIBUTION

TITLE PREPARING TO INTERVIEW PEOPLE TO FILL JOB OF TYPEWRITER REPAIRMAN.

PURPOSE

affective To develop positive attitudes toward careers.

cognitive To learn what skills and qualities a person should have who repairs typewriters.

MATERIALS Paper and Pencils.

DIRECTIONS

1. You must hire a person to repair typewriters in business offices.
2. List the skills and qualities the person must have.
3. Make a written job application.
4. Compose questions to ask the applicants.

ADDITIONAL ACTIVITIES Fill out a job application.

WRITER

Irene Piskor

PROJECT CASE

SUBJECT AREA
LANGUAGE ARTS

Fine Arts and Humanities

TITLE Preparing to Interview People to Fill Job of a 7th and 8th Grade Art Teacher.

PURPOSE

affective To develop positive attitudes toward careers.

cognitive To learn what skills and qualities a person should have who teaches 7th and 8th grade art classes.

MATERIALS Paper and Pencils.

DIRECTIONS
1. You must hire a person to teach art to 7th and 8th grade students.
2. List the skills and qualities the person must have.
3. Make a written job application.
4. Compose questions to ask the applicants.

ADDITIONAL ACTIVITIES Fill out a job application.

WRITER
IRENE PISKOR

PROJECT CASE

SUBJECT AREA
LANGUAGE ARTS

MARKETING AND DISTRIBUTION

TITLE You Tell Me Why I Should Hire You To Be a Real Estate Salesperson for My Company.

PURPOSE

affective To become aware of self worth as related to a job a student can perform.

cognitive Students will learn how to sell themselves by stressing their positive qualities and skills.

MATERIALS Pencils and Paper.

DIRECTIONS

1. List your positive qualities such as dependable, hard worker, good listener, willing to help others, etc.
2. List your skills that would be used in selling real estate.

ADDITIONAL ACTIVITIES Speaker - Real estate salesperson.

WRITER

IRENE BISKOP

PROJECT CASE

SUBJECT AREA

LANGUAGE ARTS
MARKETING AND DISTRIBUTION

TITLE POSITIVE AND NEGATIVE ASPECTS OF BEING A LADIES' COAT BUYER FOR A DEPARTMENT STORE.

PURPOSE

affective To become aware that jobs involve good and bad aspects.

cognitive Students will discuss and list what it feels like to be a ladies' coat buyer.

MATERIALS Blackboard, Pencils and Paper.

DIRECTIONS

1. You are a buyer of ladies' coats for a department store.
2. List good and bad aspects of your job.
3. Teacher will compile a positive and negative list on board and each item will be discussed.

ADDITIONAL ACTIVITIES Visit to a department store.
Speaker - Buyer of Ladies' Coats.

WRITER

Irene Piskor

PROJECT CASE

SUBJECT AREA

LANGUAGE ARTS
FINE ARTS AND HUMANITIES

TITLE POSITIVE AND NEGATIVE ASPECTS OF BEING A COMIC STRIP WRITER.

PURPOSE

affective To become aware that jobs involve good and bad aspects.

cognitive Students will discuss and list what it feels like to be a comic strip writer.

MATERIALS Blackboard, paper and pencils.

DIRECTIONS

1. You are a comic strip writer who works at home.
2. List good and bad aspects of your job.
3. Teacher will compile a positive and negative list on board and each item will be discussed.
4. Student must be able to draw well.

ADDITIONAL ACTIVITIES Speaker - a comic strip writer.

WRITER

Irene Piskor

PROJECT CASE

SUBJECT AREA

LANGUAGE ARTS
CONSUMER AND HOMEMAKER

TITLE YOU TELL ME WHY I SHOULD HIRE YOU TO BE THE HEAD CUSTODIAN IN OUR SCHOOL.

PURPOSE

affective To become aware of self worth as related to a job a student can perform.

cognitive Students will learn how to sell themselves by stressing their skills and positive qualities.

MATERIALS Pencils and Paper.

DIRECTIONS

1. List your positive qualities such as dependable, hard worker, good listener, willing to help others, etc.
2. List your skills that would be used in the head custodial job.

ADDITIONAL ACTIVITIES Speaker - Head Custodian

WRITER

IRENE PISKOR

PROJECT CASE

SUBJECT AREA
LANGUAGE ARTS

Consumer and Homemaking

TITLE POSITIVE AND NEGATIVE ASPECTS OF BEING A DEPARTMENT STORE SALESPERSON.

PURPOSE

affective To become aware that jobs involve good and bad aspects.

cognitive Students will discuss and list what it feels like to be a salesperson.

MATERIALS Blackboard, Paper and Pencils.

DIRECTIONS
1. You are a salesperson in a department store.
2. List good and bad aspects of your job.
3. Teacher will compile a positive and negative list on board and each item will be discussed.

ADDITIONAL ACTIVITIES Trip to G. Fox and Company.
Speaker who works in retail selling.

WRITER

Irene Piskor

SOCIAL STUDIES

PROJECT CASE

SUBJECT AREA
SOCIAL STUDIES
Agri-Business

TITLE A TRIP TO A DAIRY

PURPOSE

affective To expose students to different jobs in a dairy.

cognitive To list the different jobs available in a dairy.

MATERIALS Pictures of a dairy, pictures of jobs found in a dairy.

DIRECTIONS

1. Teacher asks questions:
   a. Have you every been in a dairy?
   b. How are the cows milked?
   c. At what time of the day are cows milked?
2. Let students make a list of jobs available in a dairy.
3. Write the list on the blackboard.
4. Students will write the list in order of occurrence.
5. How many hours does a dairy farmer work?
6. What skills does he/she need to be a dairy farmer?
7. What is the worst job at a dairy farm?

ADDITIONAL ACTIVITIES Plan a visit to a dairy farm.
Show the movie "Dairy-Farm to Door" #138, Board of Education.

WRITER
BEN MIRANDA

PROJECT CASE

SUBJECT AREA

SOCIAL STUDIES
Transportation

TITLE TRANSPORTATION CAREERS

PURPOSE

affective To appreciate different jobs in the transportation business.

cognitive To learn what skills are needed in transportation.

MATERIALS Reading "Popeye and Transportation Careers"

DIRECTIONS 1. Make list of jobs known by students and write them on the blackboard (related to the field of transportation).
2. Find out which of the jobs are related to ground, air, water transportation.
3. Discuss jobs by ~~areas~~ in order to relate them to Hartford, Connecticut.
4. Read information related to transportation careers.
5. Answer 3 out of 4 questions given at the end of the reading.

ADDITIONAL ACTIVITIES 1. Plan trip to the Connecticut Bus Company to find out about jobs available.

WRITER

BEN MIRANDA

PROJECT CASE

SUBJECT AREA
SOCIAL STUDIES
Transportation

TLE A TRIP TO THE MOON.

RPOSE

affective To identify the emotions in an airplane trip.

cognitive To make a list of different kinds of transportation used in the United States.

TERIALS

a) Reading: "The Conquest of Space" Luis Rey Science 5th. grade Spanish version....Pages 36-38.

RECTIONS

1. Find out how children come to school.
2. Make a list of the different means of transportation used by the students, and add some not used by them,yet.
3. Classify the list as local, national, international, interplanetary.
4. How do the students feel when traveling by car, by truck, by train, to the city?
5. Is traveling by airplane safe?

DITIONAL ACTIVITIES Prepare a bulletin board showing different means of transportation lready classified as:

a) local
b) national
c) international
d) interplanetary

WRITER

PROJECT CASE

SUBJECT AREA
SOCIAL STUDIES
Transportation

TLE I WANT TO BE A PILOT

RPOSE

affective To imagine what people can do in different jobs.

cognitive To draw different means of transportation and jobs related to the business of transportation.

TERIALS 1. Pictures; 2. Drawings; 3. Crayons; 4. Drawing paper; 5. Movies a) The Development of Transportation b) History of Transportation. Bd. of Ed.-532

RECTIONS
1. Have a brief review of the different means of transportation by:
   a. land b. air c. water
2. Discuss how these means of transportation help us to get a better life.
3. See movies about different means of transportation.
   The development of transportation.
4. Trace the development of the automobile.
5. What other jobs and workers go into making a car beside the auto assembler?

DITIONAL ACTIVITIES

Make a list of different kinds of jobs available in the transportation field.

WRITER

PROJECT CASE

SUBJECT AREA
SOCIAL STUDIES
Communication and Media

TITLE GIVE ME A CALL

PURPOSE

affective To understand the development of different means of communication.

cognitive To classify different means of communication in order of importance.

MATERIALS
2 empty cans
a piece of string

DIRECTIONS

1. Discuss briefly the information searched by the students at the library concerning a tin-can telephone.
2. The students will prepare a telephone system using 2 empty cans and a piece of string.
3. Students will communicate with each other using the telephone made by them.
4. How would this telephone system work if it were used throughout Hartford? Any problems with it?

ADDITIONAL ACTIVITIES 1. Make projects of different means of communications.

WRITER

PROJECT CASE

SUBJECT AREA
SOCIAL STUDIES
Communications and Media

TLE SEND A MESSAGE TO A RELATIVE IN PUERTO RICO.

RPOSE

affective To develop appreciation for public workers.

cognitive To make a list of the most important means of communication available in the City of Hartford and compare them with the ones available in Puerto Rico.

TERIALS Pictures, drawings of communication devices.

RECTIONS
1. List the means of communication most available in the City of Hartford.
2. Write down a list of different means of communication from the island of Puerto Rico.
3. Compare them in efficiency, availability, serviceability.
4. Get more information at the library about history, development and availability of different means of communication.
5. How would you get a message quickly to someone in Puerto Rico?
6. How would you send a package of information to someone?

DITIONAL ACTIVITIES Prepare an exhibition of projects within the room, showing different means of communication.

Reports
Drawings
Paintings
Hand-made devices

WRITER _____

PROJECT CASE

SUBJECT AREA
SOCIAL STUDIES
Agri-Business

ITLE THE FARM

URPOSE

affective To express feelings about food, clothes and work.

cognitive To list jobs that can be found in agri-business.

ATERIALS
1. Readings from the Resource Center.
2. Movie "Farmers and the City" - Board of Ed. Media Center - 083.

IRECTIONS
1. Have a discussion about the reports made by the students at the Resource Center concerning main crops at different geographical zones throughout the world.
2. Make a list of different jobs in agri-business and state the importance of each one.
3. Show the movie "Different aspects of agriculture in difference places."

ITIONAL ACTIVITIES:
how the following movies:
a) Dust Bowl
b) The Land
c) Science and Agriculture
d) Spring on the Farm
e) Behavior in plants and animals
f) Growing, Growing
g) Why plants grow where they do

WRITER

PROJECT CASE

SUBJECT AREA
SOCIAL STUDIES
Agri-Business

TLE PLANTING A CROP

URPOSE

affective To develop awareness of the modern techniques used in the agri-business.

cognitive To write a short composition about emigration of Puerto Ricans to the mainland.

ATERIALS
Movies
a). Science and Agriculture Bd.of Ed. - 024
b). Why plants grow where they do. Bd. of Ed. - 724

IRECTIONS
1. Ask children "How do we get our food and clothing?"
2. What are the most important crops in PUerto Rico?
3. What are the most important crops in the Mainland?
4. Ask why most Puerto Ricans work in the agri-business in Puerto Rico.
5. Why don't Puerto Ricans work as much in agriculture in the mainland as they did in PUerto Rico?

DDITIONAL ACTIVITIES: Find information about the main crops in difference geographical zones. Students will be sent to the Library to get the information.

WRITER

PROJECT CASE

SUBJECT AREA
SOCIAL STUDIES
TRANSPORTATION

TITLE MY NEIGHBOR IS A TAXI DRIVER

PURPOSE

affective To gain exposure concerning careers and their relation to society.

cognitive To write two skills that a taxi driver should possess.

MATERIALS

DIRECTIONS
1. Find out how many students have traveled in a taxi.
2. Discuss how taxis work:
   a. Dispatch system.
   b. Meter system.
3. Mention the duties of a taxi driver.
4. Describe the qualities of a good taxi driver.
5. Plan a visit to a taxi station to see how these persons work.
6. Could you drive a taxi at night? Why?

ADDITIONAL ACTIVITIES Trip to taxi station to see how these people work.

WRITER
REM MIRANDA

PROJECT CASE

SUBJECT AREA
SOCIAL STUDIES
Agri-Business

TLE NATURAL RESOURCES CAREERS

EPOSE

affective To develop an appreciation toward farming.

cognitive To classify jobs by areas.

ATERIALS Reading "Popeye and Agri-Business - Natural Resources Careers".

RECTIONS
1. Let's talk about a farm from Puerto Rico. What jobs are available in a farm from Puerto Rico?
2. Have out of you been to a farm in Connecticut? What have you seen?
3. Jobs are classified by areas. Let's make a list. Ex. outdoor work - indoor work.
4. Read information about different jobs in different areas.
5. Answer questions given about job classification.

DITIONAL ACTIVITIES

WRITER
BEN MIRANDA

PROJECT CASE

SUBJECT AREA

SOCIAL STUDIES
Manufacturing

TITLE THE FURNITURE MAKER

PURPOSE

affective To expose the students to the variety of jobs available in the manufacturing of furniture.

cognitive To write the meaning of ten (10) words correctly from a list of fifteen (15).

MATERIALS Tools.

DIRECTIONS
1. Imaginary trip to our homes.
   a. What do you see in the living room? In the bedroom? In the kitchen? In the dining room?
2. Let's think about our ancestors. What kind of furniture did they have?
3. Make a list of furniture that you can find in your house.
4. Discuss how the furniture was made and mention the kind of jobs involved in making it.
5. Write the vocabulary on the blackboard with meanings.
6. After discussing the vocabulary each student will write the meaning of ten (10) words correctly.

ADDITIONAL ACTIVITIES Plan a visit to the Industrial Arts shops.

WRITER

Ben Minaga

PROJECT CASE

SUBJECT AREA

SOCIAL STUDIES
COMMUNICATIONS

TLE JOBS IN TV, RADIO, PUBLISHING, PHONE COMPANY.

RPOSE

affective To help students experience the importance of jobs in communications.

cognitive To complete a written exercise with 70% accuracy.

TERIALS "Popeye Comic Book Series - Communications and Media".

RECTIONS

1. Brief discussion about different jobs in TV, Radio, Phone Company, Publishing Company.
2. Make a list of the jobs suggested by the students on the blackboard.
3. Add to the list some of the jobs not mentioned by the students.
4. Select them in order of importance using a census system.
5. Read information related to the different jobs in TV, Radio, Publishing, Phone Company in "Popeye Comic Book - Communications and Media Careers".
6. Complete the exercise at the end of the reading.
7. Which jobs would you like to have?

DITIONAL ACTIVITIES

WRITER

BEN MIRANDA

PROJECT CASE

SUBJECT AREA

SOCIAL STUDIES
Communication

TITLE VISIT A TELEPHONE OPERATOR.

PURPOSE

affective To become aware of the jobs available in the City of Hartford.

cognitive To list the main duties of a telephone operator.

MATERIALS Old Telephones.

DIRECTIONS
1. Brief discussion about Mr. Alexander Bell - invention of the telephone.
2. Discuss the importance of having a telephone at home.
3. Find out information about how we get a call at home.(Resource Center)
4. Read and discuss the topic "Visit a telephone operator. Curious Johnnie Careers".

ADDITIONAL ACTIVITIES 1. Plan a trip to the Connecticut telephone company to observe them working.

WRITER

BEN MIRANDA

PROJECT CASE

SUBJECT AREA

SOCIAL STUDIES
Agri-Business

TITLE VISIT TO A FACTORY.

PURPOSE

affective To have students appreciate how products are manufactured.

cognitive To make a list of prime products that can be converted into manufactured products.

MATERIALS Pictures of farm products, pictures of manufactured products.

DIRECTIONS

1. Make a list of some of the most important products used in your home.
2. Discuss how these products are made.
3. Make a list of the different persons who take care of the manufacturing of these products.
4. Stress the importance of each person involved in the process of manufacturing in order to get the final product.
5. How many people made the nickel in your pocket?
6. Where did the metal come from?

ADDITIONAL ACTIVITIES Invite a speaker in who may give information about the manufacture of food products into final products.

WRITER
BEN MIRANDA

PROJECT CASE

SUBJECT AREA
SOCIAL STUDIES
Transportation

TITLE BUILDING AN AIRPLANE.

PURPOSE

affective To develop a sense of appreciation towards the pioneers of the aviation industry.

cognitive Students will build a model airplane.

MATERIALS Model airplanes.

DIRECTIONS

1. To discuss with students man's first efforts to fly.
2. To discuss the first flight from United States to Paris, France by Lindberg.
3. The development of aviation from the very beginning to the present will be included. Ask "How do planes fly?".
4. Find out about jobs available in the airplane industry.
5. Build an airplane model. Name the parts in English and in Spanish.

ADDITIONAL ACTIVITIES Invite speakers from airplane businesses to talk about jobs available in Connecticut.

WRITER
BEN MIRANDA

PROJECT CASE

SUBJECT AREA
SOCIAL STUDIES
Transportation

TITLE An Imaginary Trip to Treasure Island.

PURPOSE

affective To develop a sense of team work.

cognitive To involve the students in a verbal discussion about the importance of team work.

MATERIALS Picture of a boat, an island, a group of people trying to get to the island.

DIRECTIONS

1. Tell students a brief story about a group of persons sinking in a boat near Treasure Island.
2. Have students make suggestions about the way to survive.
3. Write suggestions on the blackboard.
4. Divide the class into teams. Their goal is to decide upon a list of priorities in order to survive.
5. Discuss the different lists submitted.
6. The class as a whole may make a list of priorities.

ADDITIONAL ACTIVITIES Show the movie "Ocean Voyage" #186 Board of Education.

WRITER
BEN MIRANDA

PROJECT CASE

SUBJECT AREA

SOCIAL STUDIES
Communication

ITLE MEET SMOKEY THE BEAR.

URPOSE

affective To recognize the importance of Citizen Band radios.

cognitive To make a list of persons and their reasons for using Citizen Band radios.

ATERIALS Pictures of radios, telephones and CB radios.

IRECTIONS

1. Brief conversation about CB's, stressing the importance of this type of communication.
2. Discuss briefly the invention of the telephone and the telegraph. How do they work?
3. Find information about the different means of communication used by our ancestors.
4. Write words using the "Morse Code".
5. Try to make your own code up for letters of the alphabet.
6. What "special" words do Cber's use on a daily basis?

DITIONAL ACTIVITIES Bring a speaker in to discuss citizen band radio and other modern means of communication.

WRITER

PROJECT CASE

SUBJECT AREA
SOCIAL STUDIES
Communication

TITLE LANDING AN AIRPLANE

PURPOSE

affective To develop a sense of trust toward peers.

cognitive To develop listening skills and to follow directions.

MATERIALS Movie "Operation Liner" #516, Board of Education.

DIRECTIONS

1. Discuss the importance of air communication.
2. Find out who uses air communication.
3. Present the movie "Operation Liner" to see how airplanes communicate with ground stations.
4. Make a list of people involved in air traffic operations.
5. What skills are involved in each of these jobs.
6. What words do they use in communicating with airplane pilots.

ADDITIONAL ACTIVITIES Invite an air traffic controller to speak.

WRITER

PROJECT CASE

SUBJECT AREA

Hospitality

TITLE Hospitality

PURPOSE

affective To be aware that possessions have special value.

cognitive To express interests, needs, ideas and feelings with appropriate tone, gesture, and lack of tension.

MATERIALS Pencil, paper.

DIRECTIONS

1. I will tell a group of students that a warning has come over the radio.
2. Everyone must leave the community where they live due to the many pollutants found in the air, water and food.
3. Airplanes will relocate people to another safe community.
4. When the airplane arrives everyone must have a list of 10 items they want to take with them.
5. They must be ready to explain to the stewardess why they need to take these items with them.
6. What jobs in hospitality and recreation might the students see in an emergency like this?

ADDITIONAL ACTIVITIES

WRITER

PROJECT CASE

SUBJECT AREA

Hospitality and Recreation

TITLE HOSPITALITY.

PURPOSE

affective To experience fantasy directly involving values.

cognitive To summarize information. Relate to ideas and events which are removed from the student.

MATERIALS Duplicated sheets of persons listed below.

DIRECTIONS Students are told they can pick three persons from the list below who will do the following:

1. Doctor Good. Will make you look the way you wish to look for the rest of your life.
2. Nurse Miracle. Promise you long life. Perfect health for the rest of your life. No physical injuries ever.
3. Teacher A. Promises you will always make excellent grades in school, never have any problem doing any schoolwork.
4. Banker Rich. Promises to give you all the money you want for the rest of your life.
5. Athlete Super. Promises you will excel in all sports that you attempt. You will always be respected.
6. Social Worker Never. Promises you will never have to work a day in your life. You will always get a check to meet your expenses.

ADDITIONAL ACTIVITIES Students can discuss why they chose the three persons.

PROJECT CASE

SUBJECT AREA

Public Service

TITLE PUBLIC SERVICE

PURPOSE

affective To expose children to the world of work.

cognitive To learn that many workers do not work during the daytime.

MATERIALS Paper, pencils.

DIRECTIONS

1. Read a few questions: "Have you ever been up at two in the morning? Who is up at this time? When does this worker sleep? Who works at this time?
2. Students make a list of people who work at night.
3. The students then read their lists, and the teacher will write a list of the workers on the blackboard.
4. Opportunity for comments and discussion will follow.
5. What public service jobs have late night working hours?

ADDITIONAL ACTIVITIES Students will write a story about how a person's life is changed when they work at night and sleep all day.

WRITER

PROJECT CASE

SUBJECT AREA

Public Service

TITLE PUBLIC SERVICE

PURPOSE

affective To make students aware of their surroundings.

cognitive To increase spelling ability and vocabulary.

MATERIALS Crayon, drawing paper, pins, scissors, and one sheet of oaktag paper.

DIRECTIONS

1. Ask the students to make a bulletin board of their city showing important buildings. The buildings might include a hospital, fire department, grocery store, bakery, police department, gas station, etc.
2. Teacher makes separate name Label cards (4x6) for each building and pins them along the bottom of the bulletin board.
3. Teacher presents a problem and the student is asked to pin this label on the building that can handle the problem.
   Ex. Where would you go if you needed a cake? If you had a broken arm?

ADDITIONAL ACTIVITIES Make a three dimensional city with goods and services listed.

WRITER

PROJECT CASE

SUBJECT AREA

_____

TITLE PERSONAL SERVICE

PURPOSE

affective To recognize (describe) different jobs.

cognitive To understand specific occupations.

MATERIALS List of Jobs:

Teacher	Policeman	Barber	Architect
Nurse	Hair Stylist	Carpenter	Mail Person

DIRECTIONS
1. Ask students to pick an occupation (it could be their parent).
2. They will act out characteristic functions of the job in pantomime.
3. Classmate will guess which job it is.
   Ex. I serve mostly men.
   I help them look and feel better.
   I use comb, brush and scissors.
   I am a

ADDITIONAL ACTIVITIES 1. Students will pick a job, and, using reference materials, study that occupation.

WRITER

PROJECT CASE

SUBJECT AREA

TLE PERSONAL SERVICE

RPOSE

affective To acquaint the student with the nuances of applying for a job.

cognitive To write a job application.

TERIALS Newspaper, pencil, paper, applications form.

RECTIONS

1. The class will discuss what an application is. How long should it be? What should it say? What should it not say?
2. Have students bring in want ads.
3. Students will choose one job to apply for.
4. They will fill in application form.
5. Review of applications with students discussing form relevance of information, etc. will follow.

DITIONAL ACTIVITIES Fill in job application.

WRITER

SCIENCE

PROJECT CASE

SUBJECT AREA
MARINE SCIENCE
Science

LE Mollusca: - Oysters and Clams.

POSE

affective To become aware of the economic value of oysters and clams and the impact of their contribution on United States economics.

cognitive To develop vocabulary skills and classify jobs related to the Mollusca (oysters and clams).

RIALS

1. Ditto papers with mollusca information;
2. Cassette with information about mollusca;
3. Fresh oysters and clams;
4. Pictures with persons working with clams and oysters.

CTIONS

1. Pass out ditto paper with mollusca, oysters and clams information.
2. The student will listen to the tapes as he is reading the information.
3. The student will discuss: a. The different kinds of shells; b. Where can they be found?; c. Different uses of the shells, for example: 1) Indian wampum; 2) Button; 3) Jewelry; 4) Others-decorative functions; 5) Food or bait can be found inside some of them.
4. The student will classify the jobs which relate with mollusca production.
5. The student will discuss the process where oysters produce pearls.
6. The student will discuss those areas of the world most famous for production of pearls.
7. The student will discuss the impact of the molluscus production on the United States.

TIONAL ACTIVITIES

1. Study fresh molluscus (environmental conditions, dissection of clams and oysters.
2. Label the diagrams of clams and oysters.
3. Film: Adaptation to ocean environment
   1146 Distevec, Hartford Board of Education

WRITER
MARIA ORTIZ DE MEDINA

PROJECT CASE

SUBJECT AREA

MARINE SCIENCE
SCIENCE

TLE WE DEPEND ON MARINE ALGAE

POSE

affective To become aware of the dependency that we have on algae.

cognitive To classify different products obtained from algae and their relations with different jobs.

TERIALS

1. Microscope.
2. Ditto papers with algae information.
3. Transparencies of different algae.
4. Microscope slide prepared with algae.
5. Overhead projector
6. Index cards.

RECTIONS

1. Pass out ditto papers with algae information.
2. Have students read the information.
3. The students will discuss:
   a. The different kinds of algae that we find in the sea.
   b. The products that we obtain from the algae.
   c. Different jobs related to these products such as:
      1) Botanist
      2) Metal Polisher
      3) Medicine
      4) Construction
      5) Dentist
      6) Laboratory worker
      7) Dietitian
      8) Pharmacist
      9) Chemist
      10) Farmer

TIONAL ACTIVITIES

1. Using the microscope observe different microscope slide prepared with algae.
2. Use of transparencies (Milliken Co.).
3. Short story "Un Tiburon En Mi Finca" (Publisher: Dimension 59)

WRITER

MARIA ORTIZ DE MEDINA

PROJECT CASE

SUBJECT AREA

ENVIRONMENTAL CONTROL
Science

LE PEOPLE WHO TAKE CARE OF OUR ENVIRONMENT

POSE

affective To develop an attitude of respect and appreciation toward different jobs related to environment.

cognitive To develop language skills (oral, written)

RIALS
1. Magazines
2. Scissors
3. Rulers
4. Pencil
5. Glue
6. Construction Paper
7. Ditto Paper

ECTIONS
1. Divide the group into five subgroups.
2. Pass out magazines with pictures related to environment.
3. Tell the students to cut out the pictures and words that describe any job related with environment as:
   a. Botanist
   b. Sanitation Engineer (garbage collectors, etc.)
   c. Mechanics
   d. Factories
   e. Water Purification Plants
   f. Bacteriologists
   g. Engineers
   h. Others
4. Ask students to express their feelings about the pictures that they cut out.
5. Ask students to write a few sentences that describe their feelings.

ITIONAL ACTIVITIES
1. Ask students to express the relationship of each picture with the environment.
2. Ask students to make a mural.
3. Discuss with students what happens if we do not take care of our environment.

WRITER

MARIA ORTIZ DE MEDINA

PROJECT CASE

SUBJECT AREA

SCIENCE
Health

TLE HOW TO TAKE CARE OF YOURSELF

RPOSE

affective To be aware of what is going on inside the human body.

cognitive To develop scientific reasoning (understanding cause and effect, deduction, induction, listing, hypotheses, comparison analysis).

TERIALS

1. Ditto paper with short stories
   (a) Meet Richard's Heart (Publisher)
   (b) Upside Down at the Movies (Publisher)
2. Record Player
3. Cassette
4. Watch
5. Animal Hearts (Chicken - Cow)

RECTIONS

1. Pass out the ditto papers with the short story "Meet Richard's Heart".
2. The students are going to read and listen to the story at the same time.
3. Discuss the function of the human heart.
4. Have the student label the different parts of the human heart.
5. Compare the human heart with other animal hearts.
6. Bring a heart (cow or chicken) in where the student may study the different parts.
7. Show the class how they can check the rate of their own heartbeat (make sure that each student knows how to feel his pulse).
8. Using a stop watch, ask each student to count the number of heartbeats he can feel in one minute.
9. After this is done, ask each student to stand by his desk and jump up and down for a while. Immediately afterward, have each child check the rate of his heartbeat.
10. Work with ditto paper exercises.

ITIONAL ACTIVITIES Invite the school nurse to give a lecture on the care of the eyes and prevention of eye trouble.

WRITER
Maria Ortiz de Medina

PROJECT CASE

SUBJECT AREA
SCIENCE
Environmental Control

TLE WHAT IS GEOLOGY AND WHO ARE GEOLOGISTS?

RPOSE

affective To relate working conditions under which geologists work.

cognitive To develop language skills, scientific reasoning and study skills.

TERIALS

1. State or National maps.
2. Transparencies of soil composition, formation of the earth's planet.
3. Ditto paper and tape with "What is Geology and Who are Geologists?".
4. Audiovisual equipment
   a. Overhead projector
   b. Cassette
   c. Record Player
5. Crayons
6. Index Cards

IRECTIONS:

1. Pass out ditto and have students read "What is Geology and Who are Geologists?". Have the information recorded on a tape and use the tape at the same time that the students are reading.
2. Have each student work with the list of some words and the definition that they find in the reading.
   a. Environmental
   b. Geologist
   c. Earth
   d. Air Pollution
   e. Mineral
   f. Fossil
   g. Forest
   h. Desert
   i. Rock
   j. Mountain
   k. Stream
   l. Mines
   m. Water Pollution

SUBJECT AREA
SCIENCE
Environmental Control

3. Given the following scrambled words, the student's job is to write the word correctly.

SCRAMBLE	CORRECT FORM
a. TALMENVIRONEN	(ENVIRONMENTAL)
b. THEAR	
c. TIONPOLLU RIA	
D. GISTOLOGEO	
E. RALMINE	
F. SSILFO	
G. RESTFO	
H. SERTDE	
I. CKRO	
J. TAINMOUN	
K. TREASM	
L. NESMI	
M. TIONPOLLU TERWA	

ADDITIONAL ACTIVITIES: Discuss each Pollution Area, their causes and effect to ourselves.

WRITER Maria Ortiz de Medina

PROJECT CASE

SUBJECT AREA

ENVIRONMENTAL CONTROL
Science

LE ENERGY CRISIS

POSE

affective To develop interest towards the energy problems.

cognitive To familiarize students with various forms of energy and jobs that relate to energy.

ERIALS Energy crisis game (published by Connecticut Natural Gas Corp.)

ECTIONS Shuffle cards, then deal all cards to students. The object of the game is for students to match energy cards with energy definition cards. If students are dealt matching cards, they should place them in front of them, face up before regular play begins. If cards are played that are not correctly matched, according to the master sheet of definitions, the cards must be returned to the students playing hand. The first student draws one card from the next student to the right and play continues around the board in the same manner until all matched pairs are on the table, leaving the energy crisis card in one student's hand.
The students will be able to discuss the different kinds of jobs related to energy.

ITIONAL ACTIVITIES The student will discuss the cause and impact of the energy crisis to himself, to his family, to the government and to the world.

WRITER
MARIA ORTIZ DE MEDINA

PROJECT CASE

SUBJECT AREA
HEALTH CAREERS
Science

TLE LET'S ACT OUT A JOB

RPOSE

affective To increase appreciation concerning how jobs relate with health.

cognitive To classify jobs in order of interest.

TERIALS
1. Index cards with definitions or job descriptions relating to health careers.
2. Some index cards with different jobs related to health might be:

a. Nurse	e. Dental assistant	i. Pharmacist
b. Doctors	f. Veterinarian	j. Chemist
c. Laboratory Technician	g. Dietitian	k. Bacteriologist
d. X-rays Technician	h. Dentist	l. Biologist

RECTIONS
1. Shuffle cards. Then deal all cards to students.
2. Each student should pick up the card in front of him.
3. Each student should act out his role of the job found on the card.
4. After each student acts out his job, he shares cards with his friends.
5. At end of game, each student has opportunity to express his feelings about:
   a. job acted out the first time
   b. job shared with friends.

ITIONAL ACTIVITIES
ze with health:
1. Read one of the following newspapers finding out how different jobs
   a. New York Times
   b. Hartford Courant.
2. Discuss different work opportunities students can find in health
d.
3. Visit to Farmington Health Center.

WRITER
MARIA ORTIZ DE MEDINA

PROJECT CASE

SUBJECT AREA
SCIENCE
Health

TITLE "DIFFERENT MICROORGANISMS AROUND US"

PURPOSE

affective To develop awareness of scientific techniques.

cognitive To develop vocabulary skills, scientific techniques and learn about different occupations related to health.

MATERIALS

1. Pressure cooker
2. Incubator
3. Nutrient Agar
4. Sterile Petri Dishes
5. Wax Pencil
6. Distilled Water

DIRECTIONS

1. Divide the class into four groups. Each group is going to work with different petri dishes.
2. Tell each group where they are going to locate their petri dishes.
   Group A - Cafeteria - Hall
   Group B - Girl's Bathroom - Social Studies Room
   Group C - Boy's Bedroom - Art Room
   Group D - Science Room - Administration Office
3. Mark each petri dish with group letter and place it where they are going to work.
4. Prepare the nutrient Agar. Follow the teacher's directions (see ditto paper).
5. When the nutrient Agar is ready on the petri dish, go to the place assigned to your group with the petri dishes, and take out the top (lip) for 6 minutes; then put the top back. When you come back to your room, put the petri dishes upside down.
6. After 3 or 4 days, count the microorganism colonies on the petri dish. You can identify the fungi colonies because they are big enough and look like cotton.
7. Make a chart where you may write your observations.

PLACE SITIO DE EXPOSICION	NUMBER OF COLONIES BACTERIAS - MOHOS		TOTAL BACTERIA - HONGOS
1. Science Room			
2. Cafeteria			
3. Hall			
4. Girl's Bathroom			
5. Boy's Bathroom			
6. Social Studies Room			
7. Art Room			
8. Administration Office			

8. Answer the following questions:
   1. ¿Qué sitio tiene mayor población de organismos?
   2. ¿Qué explicación sugieres tú para que la población sea tan alta en esa localidad?
   3. ¿En qué sitio se encontró la menor población de micro-organismos?
   4. ¿Puede su contage variar si usa un medio diferente en la platilla o si se incuba a diferentes temperaturos, ¿Por qué? ¿Por qué No?
   5. ¿Por qué es importante disponer de los platillos usando técnicos bacteriológicos apropiado?

ADDITIONAL ACTIVITIES

1. Use of filmstrip about microorganism.
2. Use of transparency related to fungi; bacteria virus.
3. Study of science project: "Which toothpaste is the best to control mouth bacteria"presented by Teresa Vazquez, a bilingual student at the Connecticut Science Fair at the University of Hartford.
4. Tour to Farmington Health Center (University of Connecticut).

WRITER

María Ortiz de Medina

PROJECT CASE

SUBJECT AREA
SCIENCE
Marine Science

TITLE THE USE OF LOBSTER AND CLAM SHELLS TO FERTILIZE PLANTS.

PURPOSE

affective To appreciate how fertilizer helps food grow.

cognitive To develop scientific reasoning and laboratory techniques.

MATERIALS

1. Beam seeds.
2. Small Geranium plants.
3. Clam shells
4. Lobster shells.
5. Mortar and pestle.
6. Graduated Cylinder.
7. Beaker.
8. Paper towels.

DIRECTIONS

1. Read the ditto paper with introduction.
2. Study the vocabulary words:
   a. clamp
   b. lobster
   c. plant
   d. leaves
   e. botanist
   f. zoologist
   g. oceanography
   h. shells
   i. calcium compound
   j. oxygen
   k. carbon
   l. ocean
3. Divide the class into two groups.
4. Each member of the two different groups are going to be working on separate steps of the experience.
5. Two members of each group are going to grind the lobster and clam shells.
6. Two other students in each group are going to weigh different amounts of lobster and clam shell powder.
7. Three other students of each group are going to plant the seeds in water and later transplant them to soil that has been mixed with different concentrations of lobsters or clam powder.
8. Each group is going to identify each container and the amount of concentration of lobster or clam shells.
9. Two other members of each group are going to prepare a control plant to compare other plant growth to.
10. Make a chart for daily observations of plant growth and record daily observations comparing them to the control plant.

SUBJECT AREA
SCIENCE
Marine Science

ADDITIONAL ACTIVITIES

1. Study the Marine Biome from transparency book Ecology of Milliken Co.
2. Study and classify shells.
3. Use of the filmstrip:
   a. Man and the Sea.
   b. The Marine Estatuory.
   c. The Open Sea.
   d. Sea Safari.
   e. The Rocky Shore.
   f. Careers in Oceanography.
4. Use of the following films:

(547)
   a. Beach, The - A River of Sand

(290)
   b. Challenge of the Ocean - Oceanography

(862)
   c. Oceanography at Work - Diamonds Under the Sea.

WRITER
Maria Ortiz de Medina

PROJECT CASE

SUBJECT AREA

SCIENCE
Marine Science

TITLE BLUE SEA MONSTER - COELACANTH

PURPOSE

affective Help student relate experiences with fish, and to inform the student that scientists are very interested in studying sea animals.

cognitive To develop language skills, scientific reasoning study skills and reading skills.

MATERIALS Ditto story "Blue Sea Monster" by

DIRECTIONS

1. Pass out ditto with the exercises of Blue Sea Monster story.
2. Pass out ditto with Blue Sea Monster story.
3. Listen to the tape with the information about the Coelacanth.
4. Read the information about scientists and the Coelacanth.
5. The student will be expected to answer questions:
   a. How many years has the Coelacanth existed?
   b. What other animal lived during that time?
   c. Where there men on Earth then?
   d. How many years ago did man first appear on Earth?
   e. When was the first living Coelacanth found?

ADDITIONAL ACTIVITIES

1. Examine a live fish. Label the part of the fish on a diagram.
2. Take a trip to a pet shop or an aquamarine museum (Mystic or Boston).
3. Make a marine mural.

WRITER
Maria Ortiz de Medina

PROJECT CASE

SUBJECT AREA
HEALTH CAREERS
Science

LE LEARN MORE ABOUT PLANTS AND ANIMALS AS FOOD

POSE

affective To be aware of sense of taste when you eat food.

cognitive To classify those parts of plants or animals safe to be eaten and those that are not safe to be eaten.

TERIALS
1. Several stalks of each of the following: some leaves of asparagus, celery, rhubarb.
2. Pieces of these vegetables.
3. Disposable cups and spoons, paring knife, glass jar, red food color, magnifying glass.
4. Record player.
5. Ditto paper with short story "El Veneno De Fugu" (Publisher by Dimension 59).

CTIONS:
1. Hold up bunch of asparagus. Take out a single spear and show it to students. Ask students "What is this called? Is this part a stem? Or a root?"
2. Hold up stalks of cooked celery. Ask several students to tell how celery was prepared.
3. Have a rhubarb tasting party. Discuss its flavor, appearance and texture. Tell students that although you can safely eat stems of rhubarb, the leaves of the rhubarb plant are poisonous and should never be eaten.
4. Set a simple experiment to illustrate the passage of water and food through the stems of plants.
5. Read and listen to the short story "El Veneno Del Fugu". Discuss story.

DITIONAL ACTIVITIES Discuss possible jobs related to this subject.

a. Farmer
b. Dietitian
c. Chemist
d. Chef
e. Botanist
f. Zoologist

WRITER

MARIA ORTIZ DE MEDINA

PROJECT CASE

SUBJECT AREA

MARINE SCIENCE
Science

TITLE GIFT FROM THE OCEAN

PURPOSE

affective To develop awareness about big Ocean Treasures.

cognitive To develop language skills, classify products and jobs related with oceanography.

MATERIALS
1. Book -Pathways in Science 2-"Earth Science" (Oceans of Air and Water) - Pages 157-164.
2. Chalkboard
3. Ditto paper
4. Pencil

DIRECTIONS

Let students read pages 157-164 of Book Pathways in Science 2, Earth Science.
Students will discuss:

a. Seafood from a farm.
b. Aquaculture.
c. Minerals from the sea.
d. The Oceans and the energy crisis.
e. Offshore oil.
f. Fresh water from seawater.
g. Methods of desalination.

Students will list and make a chart of gifts from the sea.

a. Food.
b. Fertilizer.
c. Fuels.
d. Chemicals.
e. Jewelry.
f. Building products.
g. Fish products.

The student will discuss and list those jobs related to the chart, "Gift from the Sea."
The students will work with page 164, Book Pathways in Science 2:

a. "Understanding what you have read."

ADDITIONAL ACTIVITIES

1. Write to the Office of Saline Water, Washington, D.C. and ask for free literature about nuclear plants for desalination.
2. Study the biography and contributions of:
   a. Jacques Yves Cousteau.
   b. Mathew Fontaine Maury.
   c. Thor Heyerdohl.
3. Reading and filmstrip: Not even the sea is safe - Jacques Yves Cousteau.

WRITER

MARIA ORTIZ DE MEDINA

PROJECT CASE

SUBJECT AREA
ENVIRONMENTAL CONTROL

Science

TLE NOISE POLLUTION

RPOSE

affective To experience feelings which are caused by different sounds.

cognitive To identify sounds in his environment; relate the sound to the producer of it.

TERIALS
1. Posters with different noise pollutions.
2. Diagram of the ear.
3. Tape with different kinds of sounds: a. Cars; b. Workers (in building); c. Rock 'Roll Music.; d. Fire Alarm; e. Ambulance; f. Students talking.

RECTIONS

Let students listen to the tape with different sounds at different volumes.
The students will discuss and compare how they feel about each sound.
The students will describe their feelings after they see and study each poster with different noise pollutants.
Discuss the ability of the human ear and its tolerance to sound.
Label the parts of the human ear.
The students will write a paragraph where they will describe the possible effect of noise pollution on human health.
Describe a job chart that relates with noise pollution and how each person works to find a way to control noise pollution.
Tell the students what Government Agencies work with noise pollution.

DITIONAL ACTIVITIES
1. Play different instruments at different tones.
2. Stage a drama about different persons talking at the same time; with different music (i.e. Rock'n Roll).
3. Ask the students how they develop possible programs to prevent or control noise pollution.
4. Filmstrips - Our Ear.

WRITER
MARIA ORTIZ DE MEDINA

PROJECT CASE

SUBJECT AREA
MARINE SCIENCES
SCIENCE

LE NAUTILUS

POSE

affective To allow children to experience the imaginary trip of Jules Verne.

cognitive To teach literature and study skills.

TERIALS
1. Book, "Pathways in Science 2 - Earth Science" - pages 126-130.
2. Ditto paper.
3. Pencil.

RECTIONS
1. The student will read the topic "The Earth's Waters", pages 126-130.
2. The student will discuss and list the different kinds of ships used on an ocean studying expedition.
3. The student will discuss the first studying expedition of the English Vessel H.M.S. Challenger in 1872.
4. The student will relate with: a. Scuba diving. c. Hydrosphere.
   b. Bathyscaphe. d. Oceanography.
   e. Underwater Research Vessel (U.R.V.)
5. The student will describe the job of an oceanographer.
6. The student will study a picture of Jules Verne's imagined submarine and then compare the picture with the submarines that were developed many years after.

DITIONAL ACTIVITIES
1. The student will write one or two sentences to show they know the contributions of:
   a. Jacques Piccard; b. M. Scott Carpenter; c. Jules Verne;
   d. Jacques Yves Cousteau; e. Maury Mathew.
2. The student will give the full name of the composite words:
   a. SCUBA
   R.V.
   c. U.R.V.

WRITER
MARIA ORTIZ DE MEDINA

PROJECT CASE

SUBJECT AREA
ENVIRONMENTAL CONTROL
SCIENCE

TITLE THE CHALLENGE OF OCEAN POLLUTION

PURPOSE

affective To become aware of how pollutants enter the ocean.

cognitive To classify the sources of ocean pollution.

MATERIALS
1. Slides of beaches with pollution problems.
2. Charts with typical water pollutants and solid wastes.
3. Map with the Atlantic Ocean.
4. Chalkboard.
5. Slide Projector.

ACTIONS
1. Presentation of slides related to pollution problems.
2. The students will discuss the chart of typical water pollutants and solid waste.
3. The students will list those methods or ways to prevent the pollution problem.
4. The students will discuss the cause and effect of the pollution problems in the ocean. a. jobs; b. recreation; c. food; d. medicine; e. health.
5. The students will study and identify the sources of pollution in the Atlantic Ocean. a. concentration of plastics; b. concentration of tar.

ADDITIONAL ACTIVITIES:
1. The following have been suggested as "citizen actions" to fight pollution. Explain how each one might be useful:
   a. Use a row boat instead of a motor boat in lake recreation.
   b. Use lead-free gasoline in cars.
   c. Save bottles, newspapers and food cans for collection by a recycling center.
2. Write to the U.S.Navy, and to the Office of Saline Water; both in Washington, D.C. Ask for information on how they treat ocean oil spills.

WRITER
MARIA ORTIZ DE MEDINA

PROJECT CASE

SUBJECT AREA
HEALTH CAREERS

Science

TLE COMMUNITY ACTION CONTROLS GERM DISEASES:

RPOSE

affective To expose the student to important community control programs against germs.

cognitive To study the different roles of people working with health problems.

LS:
1. Posters with: a. Food inspector; b. X-ray pictures; c. Pasteurization plant; d. Safe pesticides can (control insects); e. Water purification plant.
2. Newspaper;
3. Book of International Certificates of Vaccination;
4. Scissors.

ONS:
1. Take an imaginary trip from Europe to Bradley Airport.
   a. Describe the process where the passengers are taken when they land.
   b. Discuss the importance of these processes.
2. Show to students Book of International Certificates of Vaccination and discuss with them the importance of this book.
3. Study the following words and how they relate to health:

a. Epidemic	f. X-rays	k. Typhoid fever
b. Quarantine	g. Rabies	l. Pasteurization
c. Malaria	h. Spread of disease	m. Chlorination.
d. Anopheles	i. Smallpox	
e. DDT	j. T.B.	

4. Present each poster and relate it to the health of the students.
5. Ask students to describe what they see and how they may prevent a disease.
6. Pass out different newspapers. Ask students to cut out the news that relates to health, and to discuss the news.
7. Discuss how community laws can control infectious diseases.
8. Discuss roles of: a. Food inspector; b. X-ray (laboratory technician); c. Public Health Nurses; d. Bacteriologist; e. Chemist.

DITIONAL ACTIVITIES

1. Discuss the Malaria disease and their control program.
2. Imagine that you are a member of the State Legislature. A bill is introduced to repeal the following laws: a. Blood test before marriage; Pasteurization of milk: The argument given is that these laws deprive citizens of their personal rights. State the major points you would make if the Governor asked your advice.
3. Discuss Swine Flu innoculation in the Nation.
   a. Guidlain-Baire Syndrome (a paralyzing neurological disease.

WRITER

PROJECT CASE

SUBJECT AREA
HEALTH CAREERS
SCIENCE

TLE GREAT MOMENTS IN THE CONQUEST OF DISEASE

RPOSE

affective To give the student an appreciation concerning the conquest of disease.

cognitive To develop language skills and scientific reasoning.

TERIALS
1. Book - Pathways in Science (Biology 2) Pages 120-122.
2. Chart with The Common Germ Disease.
3. Pictures of: a. Dr. Albert Sabin; b. Dr. Jonas Salk; c. Pres. Franklin D. Roosevelt; d. Edward Jenner; e. Louis Pasteur; f. Elie Metchnikoff; g. Robert Koch; h. Dr. Joseph Lister.

RECTIONS

Let students read pages 120-122 of Pathways in Science, Biology 2.
Students will discuss:
a. Jenner Discovers Vaccination.
b. How does vaccination work:
c. Describe how polio disease affects the human being and how it was controlled.
d. How Dr. Albert Sabin and Jonas Salk developed an oral and injected polio vaccine.

Describe differences between: a. vaccination; b. antibiotics
Present common germ disease chart: The students will discuss:
a. Disease; b. Cause. c. Spread by; d. Description.

DITIONAL ACTIVITIES

1. Students will work with page 124 of the Book Pathways in Science Biology 2-"Understanding what you have read".
2. Study the biography of:
   a. Dr Albert Sabin
   b. Dr. Jonas Salk
   c. Pres. Franklin D. Roosevelt
   d. Edward Jenner
   e. Louis Pasteur
   f. Elie Metchnikoff
   g. Robert Koch
   h. Dr. Joseph Lister

WRITER
MARIA ORTIZ MEDINA

PROJECT CASE

SUBJECT AREA
SCIENCE

Environmental Control

TLE ECOSYSTEM AND THE POLLUTION CONDITIONS

RPOSE

affective To become aware of pollution and the problems it creates.

cognitive To develop scientific reasoning.

TERIALS
1. 2 aquariums
2. 2 terrariums
3. Different Plants
   a. seed on germination
   b. plants growing
4. Detergents and Chemical
5. Different Kinds of Trash
   a. rubber (tires)
   b. old pieces of cloth
   c. cans - bottles
   d. paper
6. Golden Fish (10)
7. One box.
8. Natural Materials such as Leaves, Insects, Shells, Stones, Seed)
9. Photos, drawing, book and scrapbook
10. Index Cards.

RECTIONS:

1. Each student reads and studies index cards with Ecology and Ecosystem Information.
   Four concepts to study:
   a. Diversity
   b. Interrelationship
   c. Adoption
   d. Succession

2. Divide the class in two groups (A.B). Each student in group A will observe and study Aquarium A (where there are no pollution problems). Students in Group B will study Aquarium B (where there are pollution problems). After the study of the two Aquariums, the student will be able to:
   a. Answer questions.
   b. Work with charts of different pollution problems.
   c. Describe the cause and effect of the pollution on Aquarium B.

SUBJECT AREA
Science
Environmental Control

ECOSYSTEM AND THE POLLUTION CONDITIONS

3. Each student studies the germination of seeds. The control group of seeds will be compared with seeds soaked in different concentrations of detergents and chemicals to show pollution's effects on growth.

4. A chart of observations will be kept.

Date	Number of Seeds on Germination	Seed Growing Yes	No

ntrol
oup

* *

periment
oup

* *

a. Make a graph of the heights the seeds grow to germinate.
b. Compare the number of seeds that germinated.

DITIONAL ACTIVITIES: Transparency Book of Ecology
(Milliken Publishing Co.)

WRITER
Maria Ortiz de Medina

MATH

PROJECT CASE

SUBJECT AREA

CONSTRUCTION
Math

TLE THE CONCRETE MAN

RPOSE

affective To discover the skills needed to be a cement mason.

cognitive To learn division in keeping a proper ratio.

TERIALS Ditto with mixing instructions for diverse building materials.

RECTIONS 1. Explain to students the importance of keeping proper ratio of materials in mixing concrete and other building supplies.

2. If a mason is going to do a smaller job, he must reduce the amounts of all the materials proportionately.

3. Explain the use of division in reducing amounts; then instruct students to reduce the amounts contained in the ditto while preserving the original ratio.

4. Discuss the combination of intellectual and manual skills that a good mason should possess and ask them how they feel about this kind of work.

DITIONAL ACTIVITIES 1. Have students reduce amounts in their favorite cookie recipes.
2. Circulate an illustrated book on masonry around the class.

WRITER

ED VARGAS

PROJECT CASE

SUBJECT AREA

HOSPITALITY AND RECREATION MATH

TLE THE HOTEL CLERK

RPOSE

affective Would I be happy working as a hotel clerk?

cognitive Multiplication of dollars and cents.

TERIALS Pencils, Paper, chalkboard and chalk.

RECTIONS

1. Explain to students that at checkout time the hotel clerk must compute the daily room rate times the days a person stayed as a guest.
2. Explain how rates differ from single to doubles and family rooms.
3. Other factors may be seasonal changes in rates.
4. Have students figure out bills for departing guests at different rates through the use of multiplication.
5. Ask students how they feel about constantly meeting new people and about a job that may require night shifts and work on holidays.

DITIONAL ACTIVITIES

1. Discuss possible safety hazards.
2. Discuss effects on family life.

WRITER

ED VARGAS

PROJECT CASE

SUBJECT AREA
CONSTRUCTION
MATH

TITLE THE ART OF SHAPING WOOD

PURPOSE

affective To discover if working with wood is satisfying.

cognitive To use the protractor in carpentry.

MATERIALS Protractor, pencil, ruler and paper.

DIRECTIONS
1. Discuss the advantages of wood over other materials from an aesthetic and ecological viewpoint.
2. Discuss its disadvantages; warping, termites, etc.
3. Explain the use of the protractor in finding angles of various degrees necessary in building certain structures in carpentry.
4. Discuss how inaccurate structures would look if carpenters estimated angles with their vision only.
5. Discuss how the more complex a structure is, the more precise the instruments must be.

ADDITIONAL ACTIVITIES Discuss with class how a slight shift in the degrees of a telescope can throw off your field of vision by millions of miles in outer space. How is that for a mistake?

WRITER
ED VARGAS

PROJECT CASE

SUBJECT AREA
BUSINESS & OFFICE
Math

TITLE THE STRANGE EXCHANGE

PURPOSE

affective To explore what its like to be a bank teller.

cognitive To learn the usefulness of decimals in exchanging currency.

MATERIALS Ditto with exchange rates for foreign currency of several nations

DIRECTIONS
1. Have students list the responsibilities of a bank teller. Then share these with the class.
2. Introduce the use of decimals in exchanging currency from one country to another.
3. After the exercise, have students discuss their values and if they would feel comfortable being a bank teller. Why or why not?

ADDITIONAL ACTIVITIES
1. Have a bank teller speak to the class.
2. Have interested students poll tellers in their neighborhood with questions they consider relevant.

WRITER
ED VARGAS

PROJECT CASE

SUBJECT AREA
BUSINESS AND OFFICE
MATH

TITLE THE KEEPER OF THE BOOKS

PURPOSE

affective To discover how interesting bookkeeping is.

cognitive To prepare a budget.

MATERIALS Chalkboard and chalk, paper and pencil.

DIRECTIONS

1. Explain the importance of keeping books for all financial transactions; then have students guess what their expenses will be when they become independent.
2. After basic expenses are agreed upon by the class, give them an amount barely above the expenses and have them budget it to meet their debts.
3. After the students have finished, have them read the budgets and explain why they budgeted the excess in one account or the other.
4. Did they enjoy this activity?
5. What would happen if budgets were not made in advance?

ADDITIONAL ACTIVITIES

1. Have students help family keep track of their financial transactions.
2. Have students who receive allowances keep a detailed record of how they spend it.

WRITER _____

PROJECT CASE

SUBJECT AREA
BUSINESS AND OFFICE
MATH

TITLE STATISTICS AND I

PURPOSE

affective To explore feelings of satisfaction in working with statistics.

cognitive To interpret a set of statistics, within levels of understanding.

MATERIALS Pencils, paper.

DIRECTIONS
1. Explain to the class how by gathering statistics through a survey, Dr. Snow (1813-58) determined that cholera was transmitted through infected water.
2. This led to the creation of a new science, statistics; and a new profession, the statistician.
3. The statistician must enjoy working with numbers and must have an eye for detail.
4. Have students read statistics and share their interpretation with the rest of the class.
5. Discuss if they would enjoy this type of work.
6. Discuss areas of employment for statisticians such as: government, business, colleges, etc.

ADDITIONAL ACTIVITIES
1. List comparisons between statistics and probability estimates and/or computer science.
2. Discuss means of gathering statistics (polls, surveys, etc.).

WRITER
ED VARGAS

PROJECT CASE

SUBJECT AREA
BUSINESS AND OFFICE
MATH

TITLE THE BUYER

PURPOSE

affective To discover if it would be interesting to be a purchasing agent.

cognitive To determine amount of savings by volume purchases.

MATERIALS Duplicate an order form for any kind of merchandise where bulk rates are discounted.

DIRECTIONS
1. Explain the various factors that a purchasing agent must consider when buying for his firm or agency, such as: quality, cost, availability, etc.
2. Discuss the public relations aspects of being a purchasing agent.
3. Distribute the ordering form and have students determine the cost of the same item when purchased in different amounts.
4. Although ordering in huge amounts may be cheaper, is it always practical?

ADDITIONAL ACTIVITIES
1. Have students compare ordering catalogues of different companies selling similar products.
2. Discuss the differences and similarities in these products, and which one would they order and why.

WRITER

ED VARGAS

PROJECT CASE

SUBJECT AREA

CONSTRUCTION
MATH

TITLE BEHIND THE WALLS

PURPOSE

affective To discover if being a lather would be interesting.

cognitive To use knowledge of shapes and figures in solving practical problems.

MATERIALS Ditto sheet with scaled drawings of odd shaped walls, rulers and pencils.

DIRECTIONS
1. Summarize the responsibilities of lathers in installing support backings for plaster or other materials used on walls or ceilings.
2. Stress the need for good measuring and geometric skills.
3. Explain to students the use of gypsum boards and have them use as many 8' x 11' boards as they need to cover the walls on the ditto sheet.
4. Explain how the best use (through planning) of the boards means less cost in materials.
5. After the students finish compare results.
6. Who used less boards to finish the job?
7. Who used most?
8. Is it practical to salvage all the scrap?

ADDITIONAL ACTIVITIES
1. Have students work on geometric puzzles.
2. Have students determine costs for various size jobs.

WRITER

PROJECT CASE

SUBJECT AREA
CONSTRUCTION
MATH

TITLE THE ELECTRIC MAN

PURPOSE

affective To discover feelings about electrical work.

cognitive To state at least three reasons why electricians need a good understanding of math.

MATERIALS A miniature battery operated light switch or any other simple circuit.

DIRECTIONS
1. Arouse classes' interest by demonstrating the light switch or any other electrical gadget.
2. Explain the concepts of voltage, amperage, watts, resistance and overload involve a knowledge of math.
3. Cite examples, such as: what would happen if the electrical current were too strong for a small gauge wire?
4. Discuss with students the fact that behind these apparently simple mathematical definitions, there exists a vast body of theoretical knowledge.
5. How would they feel working in a field both practical and theoretical at the same time.

ADDITIONAL ACTIVITIES Show a film on the basic principles of electricity.

WRITER

ED VARGAS

PROJECT CASE

SUBJECT AREA
PUBLIC SERVICE
MATH

TLE THE MATH TRANSMITTER

POSE

affective To discover if teaching is an interesting career.

cognitive To use a "lesson plan" format.

TERIALS Paper, pencils, chalkboard and chalk.

RECTIONS
1. Explain some of the advantages and disadvantages in the teaching profession.
2. Discuss if the mere knowledge of math is insufficient to teach it and if so, why?
3. Have students prepare a lesson plan to teach a concept that they have already mastered. Was it easy?
4. Will it help a person who does not understand it?
5. Have students share their plan with class, if they so wish.
6. How could the concepts be made clearer?

ITIONAL ACTIVITIES
1. Try to teach the concepts in the lesson plan to a relative or friend.
2. Have students try to explain a geometric figure orally without using hands, while the rest of the class tries to draw it.

WRITER
ED VARGAS

PROJECT CASE

SUBJECT AREA
MATHEMATICS

Business

TLE THE PROBABILITY EXPERT

RPOSE

affective An actuary's work is worthwhile.

cognitive Familiarize students with grapns, percentages and probabilities.

TERIALS Chalkboard or chart.

RECTIONS
1. On board or chart graph amount paid on pensions of any given group of employees over a five year period. (The figures should reflect a steady increase at a predetermined percentage rate, to be determined by the teacher).
2. Have students determine pattern and estimate pension costs for the following year.
3. Discuss what would happen if no one studied pensions or made projections of future costs.

DITIONAL ACTIVITIES
1. Have students list items to be considered before underwriting a pension or insurance plan.
2. Have students determine withholdings in a simple pension plan so that payments do not exceed assets.

WRITER

PROJECT CASE

SUBJECT AREA

MATHEMATICS
Manufacturing

TITLE KEEP THE BELT RUNNING

PURPOSE

affective An assembly line foreman's work is worthy.

cognitive Dry weights.

MATERIALS Paper and Pencil.

DIRECTIONS
1. Explain to students the function of an assembly line and responsibilities of a foreman.
2. Explain to students that the conveyer belt in a cookie factory has been set to receive a certain number of ounces of cookies everytime it stops.
3. Foreman must order bags to place on conveyer belt, but bags must be ordered by their capacity in pounds.
4. Explain to students that foreman has to convert ounces to pounds and vice versa.
5. Explain to students consequences if bags are ordered too large or too small.

ADDITIONAL ACTIVITIES
1. Have students transform conveyer belt amounts into metric amounts.
2. Have students use clock arithmetic in determining rate at which cookies are being dispensed.

WRITER
ED VARGAS

PROJECT CASE

SUBJECT AREA
MATHEMATICS

Construction

ITLE A NEW HAT FOR THE HOUSE

URPOSE

affective A roofer's work is worthwhile.

cognitive Determining area.

ATERIALS Pencil, eraser and paper.

IRECTIONS
1. Give students length and width of top of any given structure (example: 42' x 105') and the cost of a square foot of roof tile (example: $.55 per square foot of tile).
2. Have students determine cost of tiles and amount needed to cover area.
3. Discuss why roofer needs this information before signing a contract.

DDITIONAL ACTIVITIES
1. If roof is going to extend two feet outside of given perimeter, how does that alter figures obtained?
2. Present problems in which fractions or percents of certain roofs need to be replaced.

WRITER
ED VARGAS

PROJECT CASE

SUBJECT AREA
MATHEMATICS

Manufacturing

ITLE FIRE FOR HIRE

URPOSE

affective A welder's job is worthwhile.

cognitive The need to translate temperatures from farenheit to centigrade and vice versa.

ATERIALS Ditto.

RECTIONS
1. Students will be handed a ditto in which a welder is about to melt certain metals.
2. Welder's torch has several settings with different temperatures stated in centigrade. (Metals about to be melted have their melting point stated in degrees farenheit).
3. Have students determine settings required for each job so that it can be done with lowest setting possible to minimize energy loss.

DITIONAL ACTIVITIES
1. Have interested students do research on gases used for welding and their maximum heat output.
2. Have students average heat output of gases which are used in combination.

WRITER
ED VARGAS

PROJECT CASE

SUBJECT AREA
MATHEMATICS.

Business and Office

TITLE THE BLUEPRINT ARTIST

PURPOSE

affective An architect's work is worthy.

cognitive The need for scaling down measurements in architectural drawing.

MATERIALS Pencil, eraser, paper and ruler.

DIRECTIONS

1. Instruct students to design first floor of a house using a scale of 1/4 of an inch to represent a foot. (Ideas may be suggested, but allow students to be creative)
2. After completion of designs, have students share them with rest of class.
3. Have students discuss their feelings about their work.

ADDITIONAL ACTIVITIES 1. Have students list items overseen.
2. Have students draw new blueprints taking into consideration oversights and ideas learned from peers.

WRITER

ED VARGAS

PROJECT CASE

SUBJECT AREA
MATHEMATICS
Business and Office

ITLE THE MATH SLEUTH

RPOSE

affective To increase appreciation that an auditor's work is necessary.

cognitive To reconcile a discrepency in a balance of accounts.

TERIALS Ditto with simple accounts (income, expenses, etc.) within students' math level. There should be a few errors included.

RECTIONS

1. Ask students why it is important to have accounts audited from time to time. Students may respond either in writing or verbally.
2. Hand out ditto and have students detect errors and balance the accounts.
3. Discuss with students:
   a. How does it feel to detect an error?
   b. How is an accountant similar to a detective?
   c. What would happen if mistakes were carried on indefinitely?

ITIONAL ACTIVITIES Students can be directed to stories or newspaper articles of embezzlements and how they were detected.

WRITER
ED VARGAS

APPENDIX B

Research Instruments

The Piers-Harris Children's Self Concept Scale

Comprehensive Career Assessment Scale

COMPREHENSIVE CAREER ASSESSMENT SCALE

SCALE BOOKLET

GRADES
3 - 7

Steve Jackson
Peggy M. Goulding, Ph.D.

To the Student:

The purpose of this Scale is to find out whether or not you know about certain jobs and how interesting these jobs are to you.

There are no right or wrong answers. Please answer each question according to how much **YOU** know about the job and how interesting the job is to **YOU.**

PLEASE WAIT FOR YOUR TEACHER'S DIRECTIONS BEFORE YOU TURN THE PAGE.

Ex. 1 Clown
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

Ex. 2 Egg candler
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

Ex. 3 Astronomer
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

1. Advertising agent
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

2. Hospital administrator
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

3. Personnel manager
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

4. Child care instructor
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

5. Printer
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

6. Wholesaler
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

7. Garbage collector
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

8. Farmer
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

9. Welder
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

10. Interior designer
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

11. Pilot
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

12. Delivery person
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

13. Athlete
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

14. Utility worker
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

15. Carpenter
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

16. Marine biologist
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

17. Shoe repairman
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

18. Tool designer
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

19. Nurse
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

20. Surveyor
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

21. Philosopher
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

22. Miner
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

23. Production foreman
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

24. Fashion writer
Know nothing about
Know a little about
Know nothing about

Interesting
In between
Not interesting

25. Actor/actress
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

26. Kelp cutter
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

27. School teacher
Know a lot about
Know a little about
Know nothing about

Interesting
In between

28. Executive
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

29. Ambulance attendant
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

30. Dietician
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

31. Apartment manager
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

32. Doctor
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

33. Tool and die maker
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

34. Sewage plant operator
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

35. Telephone operator
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

36. Ticket agent
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

37. Tailor
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

38. Office manager
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

39. Hotel/motel manager
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

40. Service station operator
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

41. Cashier
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

42. Off-shore driller
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

43. Key-punch operator
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

44. Zoo keeper
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

45. Assembly line worker
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

46. Policeman/policewoman

Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

47. Park ranger

Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

48. Housekeeper

Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

49. Plumber

Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

50. Truck driver

Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

51. Dancer

Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

52. Department store buyer
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

53. Food chemist
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

54. Counselor
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

55. Insect control agent
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

56. Receptionist
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

57. Veterinarian
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

58. Foundry worker
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

59. Cameraman
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

60. Architect
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

61. Noise/air pollution worker
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

62. Horticulturist
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

63. Consumer education director
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

64. Oceanographer
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

65. Mechanic
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

66. Recreation director
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

67. Fish hatchery worker
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

68. Laboratory technician
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

69. Movie director
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

70. Forester
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

71. Artist
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

72. Editor
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

73. Hairdresser
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

74. Travel agent
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

75. Fireman
Know a lot about
Know a little about
Know nothing about

Interesting
In between
Not interesting

APPENDIX C

NEWS RELEASE

rt Every Day Right
Final Edition

The Hartford Courant

Weather Forecast
PARTLY SUNNY, COOL.
Temp. Range:
Fahrenheit 35 to 53
Celsius 2 to 13
Complete Weather, Tides
On Page 2

BLISHED 1764. VOL. ( ) CXXXIX NO. 297 HARTFORD, CONN. SATURDAY MORNING, OCTOBER 23, 1976 — 70 PAGES

15c 90c

CASE Program Seeks Better Future for Hispanic Youngsters

GREG ROBERTSON

inner city child looking
d his environment for
r models is likely to see
two: policemen and
ns. If the child speaks
ly Spanish, that is an
obstacle, according to
director of a new pro-

e problem is one of con-
to both the U.S. Office
ducation and the Hart-
school system. They are
ed up — with federal
y and local teaching
— in an experimental
r education program
h it is hoped will broad-
mpile' awareness of jobs,
them begin a realistic
ssment of their qualifi-
cations, and start them to-
wards productive adult
roles.

A more immediate goal of Project CASE (Career Application and Self-Congruence in Education for Puerto Rican Youth) is to decrease the number of school dropouts.

"They call them 'stopouts' now, with the idea that they may come back later," said CASE director James S. Cohen Friday). "I don't feel that optimistic about it."

Cohen, a 28-year-old native of Philadelphia who has headed Hartford's "Career Awareness Program" for four years, points out that less than 1 per cent of the 60,000 students at state vocational-technical schools have Spanish surnames.

"We have to provide alternatives for these kids," he said.

The research-oriented CASE program will test some methods of presenting those alternatives.

The focus of the program — which is now being organized and curriculum for it developed — will be on the 125 pupils in the eighth grade bilingual cluster at the Quirk Middle School. Most of the 14 to 16-year-old students are Puerto Rican, but several are Peruvian and Chilean, and most speak English as well as they do Spanish, Cohen said.

In January, after pre-testing all the students, the highly concentrated six-week course will be given to about half the students. The rest will be a control group.

The course will consist of films and other instructional materials, speakers from the business community and field trips to area employers.

"We're not teaching kids to be anything. We're exposing them to 35,000 jobs," said Cohen.

Many young people from the inner city daydream about being famous athletes, he said, but career education helps young people deal with such aspirations realistically by pointing out the arduous training, limited earning years and physical toll involved.

JAMES COHEN

On the other hand, the young people often are not aware of many very real job possibilities close at hand.

Hartford Hospital personnel visited one school in the Career Awareness Program and outlined the many careers in medical technical services that are open after high school.

"I think it opened the kids' eyes tremendously," said Cohen. "One question we don't ask enough is: 'What do you want to be when you grow up?'"

But, more than increasing young people's knowledge of career opportunities, the program also aims at changing attitudes.

"We are teaching a 'work ethic' — that if you work hard and have direction and have goals, you can succeed," said Cohen. "Kids have to know that they are valuable; that they have strengths and weaknesses."

A 16-member advisory committee, composed mainly of Puerto Ricans in business and social agencies, is also following the progress of the project and providing guidance and possible success models for the youngsters.

After the students complete the course in March they will be retested and at the end of the school year they will be tested again to see how much of the course they have retained. A report on the project is scheduled to be completed by next August.

Cohen, who has worked with the State Department of Education on vocational education and who has been a consultant with Educational Horizons of Vernon, is obviously excited by the task ahead.

"It's the most nitty-gritty program you can get," he said.

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